

## 2017 HOT WATER FLUSHING REMEDIATION PERFORMANCE REPORT

### HOT WATER FLUSHING REMEDIATION SKYKOMISH SCHOOL BNSF FORMER MAINTENANCE AND FUELING FACILITY SKYKOMISH, WASHINGTON CONSENT DECREE NO. 07-2-33672-9 SEA

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## ACRONYMS AND ABBREVIATIONS

|   |  |
|---|--|
| °F                                      | degrees Fahrenheit   |
| 2011 Design Report                      | <i>Hot Water Flushing Design Report, Skykomish School, 105 6<sup>th</sup> Street, Skykomish, Washington</i> dated June 6, 2011 prepared by Farallon Consulting, L.L.C. and Aquifer Solutions, Inc.   |
| 2015 CMP                                | <i>Addendum #3 to 2010 Compliance Monitoring Plan Update, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington</i> dated February 17, 2015 prepared by Farallon Consulting, L.L.C.  |
| 2016 HWF Remediation Performance Report | <i>2016 Hot Water Flushing Remediation Performance Report, Hot Water Flushing Remediation Skykomish School, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington</i> dated August 25, 2017 prepared by Farallon Consulting, L.L.C. and Trihydro Corporation |
| APH                                     | air-phase petroleum hydrocarbons   |
| ASHRAE                                  | American Society of Heating, Refrigerating and Air-Conditioning Engineers  |
| AWF                                     | ambient water flushing   |
| BNSF                                    | BNSF Railway Company   |
| CAP                                     | <i>Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington</i> dated October 18, 2007, prepared by the Washington State Department of Ecology  |
| CWF                                     | cold water flushing  |
| DQOs                                    | design quality objectives  |
| Ecology                                 | Washington State Department of Ecology   |
| Farallon                                | Farallon Consulting, L.L.C.  |
| GAC                                     | granular activated carbon  |
| gpm                                     | gallons per minute   |
| HWF                                     | hot water flushing   |
| ITRC                                    | Interstate Technology & Regulatory Council   |
| NAPL                                    | nonaqueous-phase liquid  |
| PID                                     | photoionization detector   |
| PLC                                     | programmable logic controller  |
| PSCAA                                   | Puget Sound Clean Air Agency   |
| School                                  | Skykomish School   |



|             |  |
|-------------|--|
| School Site | the area beneath and adjacent to all sides of the Skykomish School and within the sheet pile barrier wall surrounding the School |
| Site        | BNSF Former Maintenance and Fueling Facility in Skykomish, Washington  |
| SVE         | soil vapor extraction  |
| TPH         | total petroleum hydrocarbons   |
| Trihydro    | Trihydro Corporation   |
| VOCs        | volatile organic compounds   |



## EXECUTIVE SUMMARY

This report summarizes the 2017 hot water flushing (HWF) remediation system operations conducted at the Skykomish School Site at 105 6<sup>th</sup> Street in Skykomish, Washington (herein referred to as the School Site), including an evaluation of the system's performance relative to design quality objectives and compliance monitoring criteria. The goal established in the Cleanup Action Plan<sup>1</sup> for HWF treatment at the School Site is to reduce/remove separate-phase mobile or volatile liquid petroleum components or nonaqueous-phase liquid (NAPL) beneath the Skykomish School (School) to the extent technically possible. Overall HWF system performance is assessed by evaluating NAPL removal rates, cumulative NAPL removal, and the completeness of NAPL removal.

To maximize removal of NAPL during the 2017 treatment season, groundwater heating and groundwater recirculation flow rates were optimized based on 2016 HWF operational data and the design capabilities of the HWF system. The following HWF performance and compliance monitoring data were collected in 2017: groundwater temperatures and recirculation flow rates; soil vapor extraction system air flow rates and vacuums; School indoor air temperatures and air-phase petroleum hydrocarbon concentrations; School basement floor temperatures; NAPL removal rates and volumes; and dissolved- and vapor-phase petroleum hydrocarbon mass removal quantities.

The HWF performance monitoring data indicate that the treatment goal for the School Site was achieved in 2017. This conclusion is based on several lines of evidence. During the 2017 treatment season:

- Optimal heating and hydraulic gradient conditions were attained, and then maintained throughout the treatment season;
- NAPL viscosity was reduced by approximately 90 to 98 percent during the 10 weeks that treatment area groundwater temperatures were maintained within the optimal range for thermally enhanced remediation (i.e., 100 to 140 degrees Fahrenheit);
- NAPL removal rates attained maximum values of approximately 10 gallons per week, and then decreased to zero, while optimal heating and gradient conditions were maintained;
- Cumulative NAPL removal became asymptotic while optimal heating and gradient conditions were maintained; and
- Optimal heating and gradient conditions continued to be maintained for 4 weeks after NAPL removal became asymptotic; only a small amount of NAPL (less than 1 gallon) was recovered during this period, and no NAPL was recovered during the last 2 weeks of the period.

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<sup>1</sup> *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* dated October 18, 2007, prepared by the Washington State Department of Ecology.



Based on several lines of evidence (e.g., effective heating and NAPL viscosity reduction, a decrease in the NAPL removal rate to zero during active heating, and asymptotic NAPL removal), the treatment goal for the School Site established in the Cleanup Action Plan has been achieved. Accordingly, HWF remediation at the School Site should be terminated.



## 1.0 INTRODUCTION

This 2017 Hot Water Flushing Remediation Performance Report has been prepared on behalf of BNSF Railway Company (BNSF) to document the 2017 performance of the hot water flushing (HWF) remediation system at the Skykomish School Site at 105 6<sup>th</sup> Street in Skykomish, Washington (herein referred to as the School Site) (Figure 1). The HWF remediation at the School Site is part of the cleanup action underway at the BNSF Former Maintenance and Fueling Facility in Skykomish, Washington (herein referred to as the Site). HWF remediation was selected following an evaluation of cleanup alternatives conducted in 2010; final evaluation results are documented in the *School Alternatives Evaluation Report Addendum, Skykomish School, 105 Sixth Street North, Skykomish, Washington* dated November 23, 2010, prepared by Farallon Consulting, L.L.C. (Farallon) (2010). The School Site remediation has been conducted in accordance with the *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* dated October 18, 2007, prepared by the Washington State Department of Ecology (Ecology) (2007) (CAP). The purpose of this 2017 Hot Water Flushing Remediation Performance Report is to summarize HWF remediation activities and performance at the School Site during the 2017 treatment season (June through October 2017). This report also presents the HWF performance data from both the 2016 and 2017 treatment seasons that indicate the treatment goal established in the CAP for the School Site has been met.

The HWF remediation activities were approved by Ecology and undertaken by BNSF pursuant to Consent Decree No. 07-2-33672-9 SEA between BNSF and Ecology, and are part of an integrated and comprehensive cleanup action for the Site. The HWF remediation system was designed by Farallon and Trihydro Corporation (Trihydro), and is described in detail in the *Hot Water Flushing Design Report, Skykomish School, 105 6<sup>th</sup> Street, Skykomish, Washington* dated June 6, 2011, prepared by Farallon and Aquifer Solutions, Inc. (2011) (2011 Design Report).

HWF system operations and monitoring were performed in accordance with *Addendum #3 to 2010 Compliance Monitoring Plan Update, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* dated February 17, 2015, prepared by Farallon (2015) (2015 CMP); and the *Operation and Maintenance Plan, Hot Water Flushing System, Skykomish School, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* dated November 10, 2016, prepared by Farallon (2016). The system was operated by Glacier Environmental Services, Inc.; Farallon provided field and project management, and Trihydro provided system design and optimization consulting.

### 1.1 HOT WATER FLUSHING TREATMENT GOAL

The goal established in the CAP for the HWF treatment at the School Site is to reduce/remove separate-phase mobile or volatile liquid petroleum components or nonaqueous-phase liquid (NAPL) beneath the Skykomish School (School) to the extent technically possible. The HWF treatment area consists of the School Site, which includes the School footprint and an approximately 20-foot-wide perimeter around the School that extends to the sheet pile barrier wall at the treatment area boundary, as shown on Figure 2. Areas outside the sheet pile barrier wall



were previously excavated to remove NAPL and contaminated soil and groundwater as part of the broader Site cleanup.



## 2.0 TREATMENT SYSTEM OPERATION OVERVIEW

HWF treatment for NAPL removal is accomplished by operating a closed-loop groundwater and NAPL extraction, groundwater treatment, and treated-water reinjection system. The extracted groundwater is treated to remove NAPL and dissolved-phase hydrocarbons. The treated groundwater is then heated prior to being reinjected into the treatment area, which raises groundwater temperatures and reduces NAPL viscosity, thereby mobilizing NAPL for recovery. Continued groundwater heating and NAPL recovery reduces residual concentrations of NAPL in the treatment area over time. The endpoint for HWF treatment is the removal of NAPL to the extent technically possible, which is interpreted to mean the point at which temporal NAPL recovery becomes asymptotic (Interstate Technology & Regulatory Council [ITRC] 2009).

In general, effective HWF treatment comprises four observable treatment phases:

- Phase I: Heating groundwater to raise subsurface temperatures, reduce NAPL viscosity, and increase NAPL mobility;
- Phase II: Maintaining elevated groundwater temperatures to attain maximum achievable NAPL recovery rates;
- Phase III: Maintaining elevated groundwater temperatures until NAPL recovery becomes asymptotic; and
- Phase IV: Discontinuing heating, allowing subsurface temperatures to return to ambient and increasing the viscosity of residual, immobile hydrocarbon.

These four phases of HWF treatment are illustrated conceptually on Figure 3 and further described below.

### **Phase I: Heating Groundwater to Raise Subsurface Temperatures, Reduce NAPL Viscosity, and Increase NAPL Mobility**

In the first phase of HWF treatment, groundwater is heated to temperatures that reduce NAPL viscosity and mobilize the NAPL (Figure 3). As the NAPL's viscosity decreases, its mobility increases, and NAPL begins to flow more readily out of soil pore spaces. The induced hydraulic gradient produced by groundwater extraction and treated-water reinjection causes the mobilized NAPL to flow toward the groundwater extraction and NAPL recovery wells.

### **Phase II: Maintaining Elevated Groundwater Temperatures to Attain Maximum Achievable NAPL Recovery Rates**

In the second phase of HWF treatment, elevated groundwater temperatures are maintained within the design range for thermally enhanced remediation to attain the maximum achievable NAPL recovery rates for the site-specific system operating conditions (i.e., groundwater temperature and induced hydraulic gradient).



### **Phase III: Maintaining Elevated Groundwater Temperatures Until NAPL Recovery Becomes Asymptotic**

In the third phase of HWF treatment, elevated groundwater temperatures are maintained within the design range for thermally enhanced remediation until the NAPL recovery rate and the cumulative NAPL recovery volume become asymptotic (at the School Site, a zero recovery rate was the asymptote/treatment endpoint). At the end of Phase III, any remaining hydrocarbon will have reached residual saturation and will therefore be immobile.

### **Phase IV: Discontinuing Heating, Allowing Subsurface Temperatures to Return to Ambient and Increasing the Viscosity of Residual, Immobile Hydrocarbon**

In the fourth phase of HWF treatment, heating is discontinued, and groundwater temperatures are allowed to return to ambient. The viscosity of any residual, immobile hydrocarbon remaining in soil pore spaces (e.g., as a coating on soil grains) at the end of Phase III will increase as temperatures decline. The loss of lighter-end (more volatile, less viscous) constituents during HWF treatment also increases the viscosity of any remaining residual hydrocarbon.

## **2.1 DESIGN QUALITY OBJECTIVES**

The 2011 Design Report presented design quality objectives (DQOs) for School Site HWF system functionality, reliability, performance, safety/security, environmental impacts, and operations monitoring (Table 1). The DQOs were developed to guide the design of the HWF system (e.g., for specification of equipment sizing/operating requirements, location of system components, etc.). Additional discussion of HWF system DQOs is provided in the *2016 Hot Water Flushing Remediation Performance Report, Hot Water Flushing Remediation Skykomish School, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* dated August 25, 2017 prepared by Farallon and Trihydro (2017) (2016 HWF Remediation Performance Report).

To optimize groundwater heating and hydraulic gradient conditions for NAPL removal based on the DQOs, the following operational and design parameters were established for HWF remediation at the School Site:

- The threshold groundwater temperature for thermally enhanced remediation. The threshold groundwater temperature for thermally enhanced remediation established for the HWF remediation was 100 degrees Fahrenheit (°F). This is the threshold temperature for enhanced NAPL viscosity reduction and removal, and was set based on an empirically derived viscosity vs. temperature curve for a sample of NAPL collected at the Site. At temperatures above 100°F, the viscosity of the NAPL is reduced by more than 90 percent relative to the viscosity at 50°F (see Section 5.2, Groundwater Heating Performance).
- The design maximum groundwater temperature. The design maximum groundwater temperature established for the HWF remediation was 140°F. This upper limit was set to optimize HWF system equipment operation while preventing damage to system components.
- The design maximum treated-water reinjection temperature. The design maximum treated-water reinjection temperature established for the HWF remediation was 160°F. This upper



limit was set based on the design maximum groundwater temperature and practical system equipment and material limitations (e.g., reinjection temperatures in excess of 160°F could induce cavitation in the system piping and potentially cause system failure).

- The design maximum groundwater recirculation flow rate. The design maximum groundwater recirculation flow rate established for the HWF remediation was 50 gallons per minute (gpm). This upper limit was set based on groundwater modeling performed during system design (as discussed in the 2011 Design Report).
- The design minimum groundwater recirculation flow rate. The design minimum groundwater recirculation flow rate established for the HWF remediation was 30 gpm. This lower limit was set based on groundwater modeling performed during system design (as discussed in the 2011 Design Report). After the 2016 HWF treatment season, a 30-gpm trigger was set to clean the recovery well screens if the recirculation flow rate fell below this value.

During 2017 HWF operations, the HWF system was operated within the ranges defined by the above operational and design parameters to optimize treatment conditions for NAPL removal. At the start of hot water injection on June 15, 2017, the groundwater recirculation flow rate was established at the design maximum of 50 gpm. The treated-water reinjection temperature was established and maintained at the design maximum of 160°F until the design maximum groundwater temperature of 140°F was attained on July 24, 2017. After July 24, the reinjection temperature was modulated as necessary to maintain groundwater temperatures at or near the design maximum until subsurface heating was discontinued on August 23, 2017. After cessation of subsurface heating, groundwater recirculation flow rates were maintained within the optimal range of 30 to 50 gpm until the HWF system was shut down on October 27, 2017.

## **2.2 HOT WATER FLUSHING SYSTEM OPERATIONAL MODES**

The HWF system has the capability to operate in three modes: HWF mode, cold water flushing (CWF) mode, and ambient water flushing (AWF) mode. The differences among these operational modes are the operating temperature regime and the equipment used for each mode. Figure 4 presents a process flow schematic showing the major components of the HWF system.

In HWF mode, treated groundwater is heated using a diesel-powered boiler prior to reinjection. The injected hot water heats the subsurface and reduces the viscosity and residual saturation concentration of NAPL in the treatment area, causing NAPL exceeding the residual saturation concentration to flow along the induced hydraulic gradient toward the recovery wells.

In CWF mode, an electric-powered chiller cools the treated groundwater to a temperature of between 45 and 60°F prior to reinjection. CWF operation was intended to accelerate subsurface cooling to ensure that the School met the 2015 CMP criteria for occupancy by the start of the school year. CWF was not required in 2016 or 2017 because School basement floor and indoor air temperatures were generally within the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards for occupancy referenced in the 2015 CMP.



Basement floor and indoor air temperatures are discussed further in Section 3.1, School Temperatures.

AWF consists of groundwater flushing without heating or cooling the treated groundwater prior to reinjection. The AWF mode is used prior to the start of HWF-mode operations to establish groundwater recirculation flow, and following HWF-mode operations to retain heat while recovering NAPL mobilized during HWF-mode operations.

Following the HWF treatment season (late spring to fall), the HWF system is shut down and winterized. System winterization is necessary to protect system components from high water levels associated with local flooding events, and to protect against freeze damage during extended cold periods experienced in Skykomish over the winter months.

## **2.3 2017 HOT WATER FLUSHING OPERATIONS**

This section summarizes 2017 HWF operations, including operational modes and significant milestones and events (Table 2).

### **2.3.1 Spring Start-Up with Ambient Water Flushing**

The 2017 system start-up and commissioning activities were conducted from June 8 through June 14, 2017. Commissioning activities included flow balancing, calibration of system controls, and testing of system components. During this period, the system was operated in AWF mode; no hot water injection was performed.

### **2.3.2 Spring and Summer Hot Water Flushing Operational Period**

Continuous HWF-mode operations (i.e., hot water injection) began on June 15, 2017, after the last day of the 2016-2017 school year when students were no longer present at the School. Hot water injection was initiated at the design maximum reinjection temperature of 160°F, which was maintained until July 24, 2017, when the design maximum groundwater temperature of 140°F was attained in the treatment area. After the design maximum groundwater temperature was attained, the reinjection temperature was modulated as necessary to maintain the groundwater temperature between approximately 130 and 140°F until hot water injection was discontinued for the season on August 23, 2017, 1 week before the start of the 2017-2018 school year. The groundwater recirculation flow rate was maintained between the design minimum and maximum values of 30 and 50 gpm, respectively, for the duration of hot water injection.

### **2.3.3 Summer and Fall Cool-Down Period**

Because the original design of the HWF system anticipated that School basement floor temperatures may become elevated above the ASHRAE standard of 84°F, it included CWF capabilities to reduce basement temperatures to acceptable levels prior to the start of the school year, if needed. During 2016 and 2017 HWF operations, the soil vapor extraction (SVE) system proved effective in removing heat from beneath the School basement floor and prevented average basement floor temperatures from exceeding 84°F. CWF was not necessary because average floor



temperatures remained below project action levels. On August 23, 2017, the boiler was shut down, and HWF system operation transitioned to AWF mode, which allowed groundwater temperatures to gradually decline. The system was shut down on October 27, 2017.



## **3.0 COMPLIANCE MONITORING RESULTS**

The 2015 CMP outlined the compliance monitoring activities and evaluation criteria for HWF operations at the School Site, which included criteria applicable to periods when school is in session (school occupancy criteria), and criteria applicable to periods when school is not in session and the School is unoccupied. A summary of compliance monitoring activities, evaluation criteria, and action levels is provided in Table 3.

### **3.1 SCHOOL TEMPERATURES**

School basement floor and indoor air temperatures were monitored during 2017 HWF operations in accordance with the 2015 CMP. The monitoring activities and results are summarized below. Average daily School basement floor temperatures and maximum indoor air temperatures measured during 2017 are presented on Figure 5.

#### **3.1.1 Basement Floor Temperatures**

During 2017 HWF operations, School basement floor temperatures were measured daily when the system operator was at the School Site using a General IRT-206 Infrared Thermometer at five locations above the HWF system piping corridor. The monitoring locations were selected to assess localized worst-case conditions. The floor temperature monitoring locations are shown on Figure 6. Basement floor temperature data are summarized in Table 4.

According to the ASHRAE standards described in the 2015 CMP, floor temperatures in occupied spaces should not exceed 84°F. The maximum average temperature of the five monitored basement floor locations in the School on any single date in 2017 was 83.7°F, measured on August 7, 2017 (Table 4). The maximum basement floor temperature at any location was 86.9°F, measured on August 7 and September 7, 2017. The maximum basement floor temperature at any location after the start of the 2017-2018 school year on August 30, 2017 was 86.9°F, measured on September 7, 2017 (Table 4). When elevated floor temperatures occurred, they were mitigated as needed by School personnel, by opening doors and windows to provide passive ventilation.

#### **3.1.2 Basement Indoor Air Temperatures**

During 2017 HWF operations, indoor air temperatures in the School basement cafeteria and southwestern hallway were automatically recorded by a data logger every 30 minutes at the monitoring locations shown on Figure 6. Basement indoor air temperature data are summarized in Table 5.

The 2015 CMP specified that indoor air temperatures should not exceed 10°F above ambient outdoor temperatures when school is not in session, and should not exceed 78.5 to 80.0°F (dependent on relative humidity) when school is in session. During the 2017 treatment season, hot water injection was conducted only from June 15 until August 23, when school was not in session. Between June 15, 2017 and the start of the 2017-2018 school year on August 30, 2017, daily average indoor air temperatures exceeded 10°F above daily maximum outdoor temperatures on



two dates (Table 5). After the start of the school year on August 30, 2017, daily average indoor air temperatures exceeded 80.0°F on 14 dates, most of which occurred during or several days following the 12-day period from August 26 to September 6 when maximum outdoor temperatures were mostly in the mid-80s to mid-90s°F (Table 5). When elevated indoor air temperatures occurred, they were mitigated as needed by School personnel, by opening doors and windows and/or using portable fans to provide ventilation.

### **3.2 INDOOR AIR QUALITY**

Indoor air quality monitoring was conducted in the School in accordance with the 2015 CMP, and included real-time monitoring of volatile organic compound (VOC) concentrations using photoionization detectors (PIDs), and periodic sampling of indoor air to monitor concentrations of air-phase petroleum hydrocarbons (APH).

The PIDs provided real-time monitoring for potential intrusion of volatile petroleum constituents into the School. This VOC monitoring was accomplished using three continuously operated RaeGuard 2 PID instruments equipped with 10.6 electron-volt lamps installed in the basement cafeteria, the basement kindergarten room, and the first floor main office (Figures 6 and 7). PID readings were continuously recorded by a remote monitoring system operated by a programmable logic controller (PLC). The remote monitoring system's human-machine interface enabled the PID readings to be monitored remotely by School personnel and Ecology staff. The indoor air VOC monitoring (PID) data are presented in Table 6. None of the project action levels described in the 2015 CMP were exceeded during 2017 HWF operations.

School indoor air sampling was conducted in accordance with the 2015 CMP using pre-evacuated, Summa-type stainless steel canisters. During HWF-mode operations, indoor air sampling was conducted weekly at three locations (one location on each floor). During AWF-mode operations and when the HWF system was not in operation, indoor air sampling was conducted monthly at six locations (three locations in the basement, two locations on the second floor, and one location on the third floor). The indoor air sampling locations are shown on Figures 6, 7, and 8. The indoor air samples were analyzed by Alpha Analytical of Mansfield, Massachusetts for APH using U.S. Environmental Protection Agency Method TO-15. Indoor air sample results are summarized in Table 7; laboratory analytical reports for the indoor air samples are provided in Appendix A. Laboratory-reported total APH concentrations in the indoor air samples were below project action levels, with limited exceptions. The few exceedances of project action levels were attributed to School maintenance activities. Benzene was reported at concentrations exceeding the action level, but benzene was not identified as a Site constituent of concern during the Site remedial investigation (The RETEC Group, Inc. 2005).

### **3.3 NOISE**

Noise levels were not monitored during 2017 HWF operations. As discussed in the 2016 HWF Remediation Performance Report, noise monitoring conducted during 2016 HWF operations indicated that the 2015 CMP action criteria were not exceeded in 2016, and noise mitigation measures were not necessary. Because the same equipment used in 2016 (e.g., SVE blower, pumps)



was used for 2017 HWF operations, it was determined that monitoring of noise levels was not necessary in 2017.

### **3.4 ODOR**

Odor monitoring was performed continuously during periods when system operating personnel were present at the School Site. Level 1 odors (i.e., odors barely detected) as defined in the *Hot Water Flushing Air, Noise, and Odor Monitoring Plan, 2015 to 2019, Skykomish School, 105 6<sup>th</sup> Street, Skykomish, Washington* dated February 10, 2015, prepared by EMB Consulting, LLC (2015) were not detected during 2017 HWF operations.

### **3.5 SOIL VAPOR EXTRACTION SYSTEM COMPLIANCE MONITORING**

Protection of School indoor spaces from potential intrusion of petroleum hydrocarbon vapors related to HWF operations was accomplished by the SVE system, which ran continuously during 2017 HWF operations. SVE system compliance monitoring results for 2017 are discussed below. The 2017 SVE system engineering performance is summarized in Section 4, Soil Vapor Extraction System Performance. SVE operational data for the 2017 treatment season are provided in Table 8.

Monthly soil vapor samples were collected from SVE system influent piping (upstream of the vapor-phase granular activated carbon [GAC] treatment vessels) on June 29, July 27, August 23, September 14, and October 26, 2017 to characterize soil vapors beneath the School and document compliance with Puget Sound Clean Air Agency (PSCAA) limitations on annual air emissions from the SVE system. The SVE influent samples were analyzed by Alpha Analytical of Mansfield, Massachusetts for APH using U.S. Environmental Protection Agency Method TO-15. SVE influent sample results are summarized in Table 9; laboratory analytical reports for the SVE influent samples are provided in Appendix B.

The results from SVE influent sampling conducted in 2016 and 2017 (as documented in the 2016 HWF Remediation Performance Report and this report) indicated that treatment of soil vapors extracted by the SVE system was not necessary to meet PSCAA requirements. The two vapor-phase GAC treatment vessels downstream of the SVE influent sampling port were included in the SVE system as a conservative measure.

Results from the monthly SVE influent sampling and SVE system flow rate monitoring data were used to calculate the mass (in pounds) of benzene and APH removed from beneath the School by the SVE system during the 2017 treatment season. The estimated masses of benzene and total APH removed by the SVE system in 2017 are summarized in Table 8. An estimated 0.00481 pound of benzene and 27.1 pounds of APH were removed from the subsurface in 2017.

### **3.6 PROCESS WATER SAMPLING**

Process water samples were collected weekly from the groundwater treatment system during HWF operations from June 8 through October 27, 2017 to assess the condition of the carbon in the two liquid-phase GAC treatment vessels. From June 8 through August 3, 2017, process water samples



were collected from the lead GAC vessel influent, the lag GAC vessel influent, and the lag GAC vessel effluent. To reduce GAC loading rates and the frequency of carbon change-out events, the groundwater treatment system was modified on August 3, 2017 by adding an organoclay treatment vessel upstream of the GAC treatment vessels. From August 10 through October 27, 2017, process water samples were collected from the organoclay vessel influent, the lead GAC vessel influent, the lag GAC vessel influent, and the lag GAC vessel effluent. The process water samples were analyzed by TestAmerica Laboratories of Tacoma, Washington for total petroleum hydrocarbons (TPH) as diesel-range organics and as oil-range organics using Ecology Method NWTPH-Dx. Process water sample results are summarized in Table 10; laboratory analytical reports for the process water samples are provided in Appendix C. A data validation report for the process water samples is provided in Appendix D.

Reported concentrations of total NWTPH-Dx (sum of diesel- and oil-range organics) in lag GAC effluent samples exceeded the Site remediation level for groundwater referenced in the 2015 CMP (477 micrograms per liter) on July 6, September 14 and 21, and October 20 and 26, 2017. The reported total NWTPH-Dx concentrations in these effluent samples ranged from 525 to 3,000 micrograms per liter. GAC vessel carbon change-out events were scheduled based on lag GAC effluent sample results and biofouling conditions observed. Carbon change-out events were conducted on June 1, July 6 and 20, and October 4, 2017.

Approximately 8,382,000 gallons of extracted groundwater was treated during 2017 HWF operations, from which approximately 297 pounds of dissolved-phase TPH was removed by carbon treatment (equivalent to approximately 41 gallons of NAPL, assuming a NAPL density of 7.2 pounds per gallon). Weekly dissolved-phase TPH mass removal estimates are presented in Table 11. The greatest dissolved-phase TPH mass removal rates occurred between June 29 and July 20, 2017, as groundwater temperatures were increasing from 80 to 125°F. Estimated mass removal rates during this 3-week period ranged from approximately 44 to 75 pounds per week. Dissolved-phase TPH mass removal rates decreased to an average of approximately 10 pounds per week between July 20 and September 14, 2017, when groundwater temperatures ranged from approximately 100 to 140°F. By the final 6 weeks of the 2017 treatment season (September 14 through October 26, 2017), as groundwater temperatures declined from approximately 100 to 70°F, dissolved-phase TPH mass removal rates became asymptotic and averaged approximately 5.5 pounds per week.

### **3.7 NONAQUEOUS-PHASE LIQUID RECOVERY MONITORING**

Belt-type oil skimmers in the recovery wells collected NAPL along with a volume of water during HWF operations. The recovered NAPL was contained in oil skimmer storage tanks at each recovery well. Water present in the oil skimmer storage tanks was removed separately from NAPL and processed through the groundwater treatment system. The oil-water separator (OWS) of the groundwater treatment system (Figure 4) also collected NAPL. Measured weekly NAPL recovery volumes in 2017 are presented in Table 11.



During 2017 HWF operations, measurable volumes of NAPL were collected in the oil skimmer storage tanks for recovery wells RW-6 (1 gallon total) and RW-9 (29.7 gallons total). In addition, a total of 27.4 gallons of NAPL was collected in the OWS. The observed NAPL volumes collected in the recovery well oil skimmer storage tanks suggest that most of the NAPL that accumulated in the OWS in 2017 was pumped as an emulsion from recovery well RW-9.

The total volume of NAPL recovered in 2017 was 58.1 gallons. This is approximately 45 percent greater NAPL recovery than in 2016, when a total of 40.2 gallons of NAPL was recovered, all from recovery well RW-9. The 2016 and 2017 NAPL recovery results indicate that recoverable NAPL was present primarily beneath the northeastern corner of the School, near recovery well RW-9. Further discussion of NAPL recovery activities and results is provided in Section 5.5, Nonaqueous-Phase Liquid Recovery.

### **3.8 GROUNDWATER ELEVATIONS AND TEMPERATURES**

Instrumentation for measuring groundwater elevations and temperatures is installed in the 21 groundwater monitoring wells at the School Site (Figure 2). Monitoring wells GWM-1 through GWM-7 contain pressure and temperature transducers that are connected to the remote monitoring system PLC. The remaining 14 monitoring wells contain stand-alone Levellogger Junior Edge Model 3001 dataloggers. Following installation in 2016, the instruments were calibrated and their groundwater elevation readings were field-verified by manual water-level measurements.

The transducers in monitoring wells GWM-1 through GWM-7 provided real-time monitoring of groundwater elevations and temperatures, which were displayed via the PLC and automatically recorded every 30 and 60 minutes, respectively. The stand-alone dataloggers in monitoring wells GWM-8 through GWM-21 recorded groundwater elevation and temperature data every 30 minutes. The groundwater elevation and temperature data were uploaded from the PLC memory and dataloggers to a laptop computer approximately every 2 weeks during 2017 HWF operations, and were used during HWF system operation to help balance and maintain operational efficiency. Daily average groundwater elevations and temperatures during 2017 HWF operations are summarized in Tables 12 and 13, respectively.

The average ambient groundwater temperature at the School Site is approximately 54°F. During 2017 HWF operations, average groundwater temperatures in the treatment area were maintained at or above 100°F (the threshold for thermally enhanced remediation) for 73 days, and between approximately 130 and 140°F for 35 days. The HWF treatment duration and the volume of groundwater treated/flushed through the treatment area in 2017 at groundwater temperatures above 60, 80, and 100°F, and between approximately 130 and 140°F, are summarized in the table below. Additional information regarding HWF treatment duration and the volume of groundwater treated/flushed at various temperatures in 2016 and 2017 is presented in Section 6.2.



### Summary of 2017 HWF Operational Milestones

| Average Groundwater Temperature in Treatment Area (°F) <sup>1</sup> | Reduction in NAPL Viscosity (Percent) <sup>2</sup> | Treatment Duration (Days) | Groundwater Treated/Flushed (Gallons) | Pore Volumes Treated <sup>3</sup> |
|---|--|---------------------------|---------------------------------------|-----------------------------------|
| >60   | >35  | >140                      | 8,382,000                             | 27.0                              |
| >80   | >77  | 101                       | 6,257,000                             | 20.2                              |
| >100  | >90  | 73                        | 4,576,000                             | 14.8                              |
| ~130-140  | 97-98  | 35                        | 2,348,000                             | 7.6                               |

**Notes:**

<sup>1</sup>Average groundwater temperature in treatment area is based on a daily average of data from wells GWM-6 through GWM-8.

<sup>2</sup>See Section 5.2, Groundwater Heating Performance.

<sup>3</sup>A pore volume is defined as the volume of water in the saturated portion of the groundwater-bearing zone within the treatment area. At the School Site, a pore volume consists of the footprint of the treatment area (30,000 square feet), multiplied by an average saturated-zone thickness of 5.5 feet (the difference between the average groundwater elevation and the elevation of the deepest contamination in the treatment area), multiplied by the estimated porosity of the groundwater-bearing zone (0.25):

Pore volume = (30,000 square feet)(5.5 feet)(0.25)(7.48 gallons/cubic foot) = 310,000 gallons



## **4.0 SOIL VAPOR EXTRACTION SYSTEM PERFORMANCE**

The SVE system was installed to prevent potential vapor intrusion into the School during HWF system operation. This section provides a summary of the SVE system engineering performance in 2017 relative to DQOs and performance expectations. The SVE system started operating on June 15, 2017 and was tested prior to start-up of the HWF system. SVE compliance monitoring results are presented in Section 3.5, Soil Vapor Extraction System Compliance Monitoring.

### **4.1 SOIL VAPOR EXTRACTION SYSTEM AIR FLOW AND VACUUM PERFORMANCE**

The 2016 HWF Remediation Performance Report included a detailed discussion of 2016 SVE system performance relative to SVE system operational and design parameters (e.g., air flow rates, vacuums [negative pressures], differential pressures beneath the School basement floor slab). Based on the 2016 SVE monitoring data, the 2016 HWF Remediation Performance Report concluded that the SVE system provided effective vapor intrusion mitigation.

The 2017 SVE system operations were similar to 2016 operations. Monitoring data for SVE system air flow rates and vacuums in 2017 are provided in Table 8. Monthly total system air flow rate measurements in 2017 ranged from greater than 495 to 652 standard cubic feet per minute; monthly system vacuum measurements ranged from 23 to 28 inches of water column. Results from 2017 SVE system air flow and vacuum monitoring (Table 8), School indoor air monitoring (Tables 6 and 7), and SVE influent monitoring (Table 9) indicated that the SVE system provided effective vapor intrusion mitigation in 2017.

### **4.2 SOIL VAPOR EXTRACTION SYSTEM AIR-PHASE PETROLEUM HYDROCARBON REMOVAL**

The calculated masses of benzene and total APH removed from the subsurface by the SVE system in 2017 are presented in Table 8. The SVE system removed an estimated 0.00481 pound of benzene and 27.1 pounds of APH during the 2017 treatment season. Section 6.03(c)(94) of PSCAA Regulation I requires that gas- or odor-control measures be installed for any soil or groundwater remediation project that emits more than 15 pounds of benzene per year, or more than 1,000 pounds of toxic air contaminants per year. The estimated 27.1 pounds of APH removed in 2017 represents a total summation of applicable toxic air contaminants defined by PSCAA, including benzene. The calculated mass of benzene and APH removed in 2017 indicates that the SVE system met PSCAA requirements prior to vapor-phase GAC treatment of extracted soil vapors.

### **4.3 SOIL VAPOR EXTRACTION SYSTEM THERMAL PERFORMANCE**

An important function of the SVE system was removing excess heat associated with HWF operations from beneath the School basement floor. As shown on Figure 5, average basement floor temperatures during the 2017 treatment season, including September and October when school was in session, did not exceed the maximum project action level of 84°F. The measured



temperature of soil vapors extracted by the SVE system consistently exceeded 80°F in 2017, indicating that the system removed a significant amount of heat from beneath the School.



## 5.0 HOT WATER FLUSHING SYSTEM PERFORMANCE

This section discusses the performance of the HWF system in 2017, including hydraulic performance, groundwater heating performance, geochemical and biological fouling, groundwater treatment, and NAPL recovery. The overall performance of the School Site HWF remediation program in 2016 and 2017 is discussed in Section 6, Remediation Performance Relative to Treatment Goal.

### 5.1 HYDRAULIC PERFORMANCE

HWF system average weekly groundwater recirculation flow rates during the 2017 treatment season are summarized in Table 14. The system was operated at groundwater recirculation flow rates in the design range of 30 to 50 gpm for most of the 2017 treatment season. The system operated at recirculation flow rates slightly greater than the design maximum (i.e., 50 to 54 gpm) from June 15 through July 27, 2017. After the transition from HWF mode to AWF mode on August 23, 2017, the recirculation flow rate decreased to between 31 and 37 gpm, due to falling groundwater levels and apparent geochemical and biological fouling of recovery wells. Following a recovery well cleaning event on September 19, 2017 (described in Section 5.3, Geochemical and Biological Fouling), the groundwater recirculation flow rate was increased to approximately 40 gpm. The recirculation flow rate was maintained at approximately 40 gpm until the end of the treatment season, to limit groundwater mounding beneath the School as Site-wide groundwater elevations rose in response to increasing seasonal precipitation and rising river levels.

Groundwater elevation contour maps representing the beginning, middle, and end of 2017 HWF-mode operations are presented on Figures 9, 10, and 11 for June, July, and August 2017, respectively. The contour maps were produced using measured groundwater levels in 12 monitoring wells in the treatment area. Consistent with groundwater flow modeling performed during HWF system design (as detailed in the 2011 Design Report), the groundwater elevation data indicate that the overall hydraulic gradient direction in the treatment area during 2017 HWF operations was toward the recovery trench.

System balancing via adjustment of flows to the injection wells was performed throughout the 2017 treatment season to optimize hydraulic gradients. The 2011 Design Report indicated that groundwater mounding likely would be less than 2 feet and drawdown would be less than 1 foot in the treatment area, which is consistent with 2017 groundwater elevation data. Hydraulic gradient provides the driving force for NAPL migration, and is maintained between the groundwater injection wells and the recovery trench by depressing the groundwater level in the recovery trench. During 2017 HWF-mode operations, hydraulic gradients near the northeastern corner of the treatment area (where the highest NAPL recovery rates were observed) were on the order of 0.03 to 0.04 foot per foot, based on measured groundwater elevations in June, July, and August (Figures 9 through 11).

The maximum groundwater elevation measured at monitoring wells in the treatment area during 2017 HWF operations was 923.57 feet above mean sea level, recorded at monitoring well GWM-5



on October 22, 2017. This maximum groundwater elevation was 1.94 feet below the School basement floor elevation. The minimum groundwater elevation measured in the treatment area during 2017 HWF operations was 914.59 feet above mean sea level (10.92 feet below the School basement floor elevation), recorded at monitoring well GWM-17 on August 29, 2017.

The effectiveness of the sheet pile barrier wall in minimizing groundwater movement into or out of the treatment area was evident by the difference between groundwater elevations at paired monitoring well locations along the barrier wall (i.e., one well inside, one well outside the barrier wall). For example, based on water level measurements at paired wells GWM-16 and GWM-17 (Figure 9) during HWF-mode operations between June 22 and August 23, 2017, groundwater elevations in the southeastern corner of the treatment area (inside the barrier wall) were consistently 1 to 2 feet lower than groundwater elevations outside the southeastern corner of the barrier wall. Flow balancing among the injection wells was optimized weekly in 2017 as necessary based on measured groundwater elevations and temperatures.

## **5.2 GROUNDWATER HEATING PERFORMANCE**

Figures 12, 13, and 14 depict groundwater heating performance as color-coded temperature contour maps representing the early, middle, and late stages of 2017 HWF-mode operations, respectively. As shown on these figures, the HWF system was effective in raising groundwater temperatures beneath the School and maintaining elevated temperatures for the duration of hot water injection. Figure 15 depicts groundwater temperatures in late September 2017, 1 month after system operations transitioned from HWF mode to AWF mode. As shown on Figure 15, groundwater temperatures remained elevated in September following termination of hot water injection on August 23, 2017.

Groundwater temperatures in the treatment area measured prior to HWF system start-up were generally below 62°F. Hot water injection was initiated on June 15, 2017. The average groundwater temperature reached 100°F (the threshold for thermally enhanced remediation) within 3 weeks, and the average temperature reached 130°F within approximately 5 weeks. Treatment area groundwater temperatures were then maintained between approximately 130 and 140°F for 5 weeks. Groundwater temperatures declined after hot water injection was discontinued on August 23, 2017, but remained above 85°F through the end of September 2017.

The empirical relationship between NAPL viscosity and temperature derived using a NAPL sample collected at the Site (2011 Design Report) is shown on Figure 16. Based on these data, NAPL viscosity was reduced by approximately 97 to 98 percent relative to the viscosity at 50°F during the 5-week period from late July through late August 2017, when treatment area groundwater temperatures were maintained between approximately 130 and 140°F. Through the end of September 2017, when groundwater temperatures remained above 85°F, NAPL viscosity was reduced by more than 82 percent (Figure 16). These reductions in NAPL viscosity correspond to proportional reductions in the NAPL residual saturation concentration and proportional increases in NAPL mobility and recovery.



### **5.3 GEOCHEMICAL AND BIOLOGICAL FOULING**

Geochemical and biological fouling was observed in the recovery wells and the groundwater treatment system during 2016 HWF operations. The geochemical and biological fouling was remedied with the addition of chlorine and a sequestrant solution, as described in the 2016 HWF Remediation Performance Report.

During the week of April 3, 2017 (coincident with the School's spring break and before HWF operations were resumed in 2017), the recovery wells were cleaned using a combination of physical and chemical methods to maximize well recharge rates and reduce the risk of system shut-downs due to clogged well screens. The well cleaning included shock-dosing the recovery wells using a solid-phase granular acid and a dispersant (Nu-Well 110 Granular Acid and Nu-Well 310 Bioacid Dispersant). Well-cleaning chemicals were applied in accordance with manufacturer recommendations. Immediately following the chemical dosing at each well, the acid was agitated in the well using a rigid well brush. The well was then scrubbed using the well brush and surged using a surge block. Following 24 hours of contact time, the wells were purged of the acid using a vacuum truck.

The HWF injection wells were able to accept injection flow totals exceeding 50 gpm for the duration of 2017 HWF operations. As noted in Section 5.1, Hydraulic Performance, following termination of HWF-mode operations on August 23, 2017, the groundwater recirculation flow rate decreased to between 31 and 37 gpm due to falling groundwater levels and apparent geochemical and biological fouling of recovery wells. To prevent further flow rate decline during late September and October 2017 AWF-mode operations, recovery wells RW-1, RW-5, and RW-9 were cleaned on September 19, 2017 using the procedure described above. Following this well-cleaning event, the groundwater recirculation flow rate was increased and maintained at approximately 40 gpm to limit groundwater mounding beneath the School.

### **5.4 GROUNDWATER TREATMENT**

The HWF groundwater treatment system employs several components to progressively treat extracted groundwater (Figure 4). Primary treatment consists of belt-type oil skimmers in the recovery wells and an OWS to remove NAPL. NAPL recovery performance is discussed in Section 5.5, Nonaqueous-Phase Liquid Recovery.

Following NAPL removal by the recovery well oil skimmers and the OWS, particulate matter and dissolved-phase TPH are removed from extracted groundwater by a bag filter system, an organoclay treatment vessel (added to the system on August 3, 2017), and two GAC treatment vessels in series. The particulate-only bag filters used in June and early July 2017 were replaced by oil-absorbing bag filters on July 7, 2017 to assist in removing emulsified NAPL. The GAC vessels provide polishing treatment for removal of dissolved-phase TPH.

The groundwater treatment system operated as designed in 2017. The bag filters were changed out approximately every other day during HWF-mode operations when NAPL recovery rates were



highest, and weekly during AWF-mode operations. As discussed in Section 3.6, Process Water Sampling, the GAC vessel carbon was changed out four times (on June 1, July 6 and 20, and October 4, 2017) based on lag GAC vessel effluent sample results and biofouling conditions observed.

## 5.5 NONAQUEOUS-PHASE LIQUID RECOVERY

This section summarizes the temporal characteristics of the NAPL recovery that occurred during the 2017 treatment season. Additional discussion of NAPL recovery monitoring activities is provided in Section 3.7, Nonaqueous-Phase Liquid Recovery Monitoring.

Weekly NAPL recovery rates and treatment area groundwater temperatures, recirculation flow rates, and elevations during the 2017 HWF treatment season are plotted on Figure 17. As shown on this figure, hot water injection was initiated on June 15, and the groundwater temperature in the treatment area reached the 100°F threshold for thermally enhanced remediation within 3 weeks. Groundwater temperatures were maintained within the optimal range for NAPL recovery (i.e., between approximately 100 and 140°F) for 10 weeks (July 6 to September 15), and at the high end of this range (i.e., between approximately 130 and 140°F) for 5 weeks (July 20 to August 24) (Figure 17). Even before the groundwater temperature reached the 100°F threshold for thermally enhanced remediation, 11.3 gallons of NAPL was recovered as temperatures were increasing from 70 to 100°F (June 22 to July 6). An additional 43.3 gallons of NAPL was recovered during the subsequent 10 weeks (July 6 to September 15), when groundwater temperatures were between approximately 100 and 140°F. Notably, during the 5-week period from July 20 through August 24, 2017, while groundwater temperatures were maintained between approximately 130 and 140°F, the NAPL recovery rate decreased from approximately 8 to 10 gallons per week during the first 2 weeks of the period, to 4.5 and 3.4 gallons per week, respectively, during the third and fourth weeks, to 0 gallons per week by the last week of the period (Figure 17). The groundwater recirculation flow rate was maintained within the design range of 30 to 50 gpm throughout the 2017 treatment season.

On August 23, 2017, hot water injection ceased and AWF began. A small amount of NAPL (0.9 gallon) was recovered between August 23 and 31, followed by 3 weeks of no additional NAPL recovery (Figure 17). Groundwater temperatures during most of this 4-week period were above the 100°F threshold for thermally enhanced remediation. Another 3.5 gallons of NAPL was recovered during the week immediately following the September 19 cleaning of recovery wells RW-1, RW-5, and RW-9 by chemical and physical means as described in Section 5.3, Geochemical and Biological Fouling. It is well known that chemical flushing with dispersants, such as the Nu-Well 310 Bioacid Dispersant used to clean the HWF system recovery wells, can mobilize residual NAPL at ambient subsurface temperatures. The NAPL recovered immediately following the September 19 recovery well cleaning event was chemically flushed from soil within a 1-foot radius of the cleaned wells, conservatively assuming an average NAPL concentration in the soil of 5,000 milligrams per kilogram and 20 percent mass removal via chemical flushing.



No further NAPL recovery occurred from September 28, 2017 until the HWF system was shut down on October 27, 2017. A total of 58.1 gallons of NAPL was recovered in 2017 (Table 11). This compares to 40.2 gallons of NAPL recovered in 2016. All but 1 gallon of this NAPL came from recovery well RW-9, indicating that recoverable NAPL was present primarily beneath the northeastern corner of the School, near recovery well RW-9. The asymptotic nature of the cumulative NAPL recovery during the 2016 and 2017 treatment seasons (discussed further in Section 6, Remediation Performance Relative to Treatment Goal) is consistent with both the NAPL recovery modeling performed during HWF system design (described in the 2011 Design Report) and observed NAPL recovery trends at other cleanup sites where thermal remediation technologies were used to remove NAPL.



## **6.0 REMEDIATION PERFORMANCE RELATIVE TO TREATMENT GOAL**

The section evaluates the performance of the School Site HWF remediation relative to the treatment goal established in the CAP, using performance monitoring data collected during the 2016 and 2017 treatment seasons. A summary of the HWF remediation, and conclusions of the performance evaluation, are presented in Section 7.0, Summary and Conclusions.

### **6.1 NAPL RECOVERY DECLINE CURVE ANALYSIS**

Inherent in the evaluation of any NAPL-removal technology such as HWF is the recognition that implementation of the technology typically produces a nonlinear decreasing trend in NAPL removal. With sustained treatment, NAPL removal rates typically decrease with time, and the NAPL removal rate and cumulative volume of NAPL removed become asymptotic (ITRC 2009).

According to ITRC (2009) technical and regulatory guidance, decline curve analysis (i.e., the analysis of temporal changes in the NAPL removal rate and/or cumulative NAPL removal volume) is an appropriate metric for evaluating the performance of NAPL-removal technologies, and asymptotic NAPL removal is an appropriate treatment endpoint at sites where NAPL removal is a treatment goal. ITRC (2009) guidance states: “[A] Declining curve indicates decreasing recovery effectiveness (e.g., decline curve analysis indicates that based on the LNAPL [light nonaqueous-phase liquid] recovered, the remaining LNAPL [volume] is either small or the time to recover relative to the remaining volume may be impractical).”

In accordance with ITRC (2009) guidance, and in consideration of the community stakeholders’ goal of completing the School Site cleanup within a reasonable time frame, decline curve analysis was used to evaluate the HWF remediation performance. Based on the HWF conceptual model outlined in Section 2.0, Treatment System Operation Overview; the HWF operational and design parameters discussed in Section 2.1, Design Quality Objectives; and ITRC (2009) guidance, an appropriate endpoint for HWF treatment at the School Site is the attainment of asymptotic NAPL recovery while treatment area groundwater temperatures and recirculation flow rates are maintained within the design ranges for optimized NAPL removal (i.e., 100 to 140°F and 30 to 50 gpm, respectively).

Key performance monitoring data for evaluating the School Site HWF remediation performance include the average treatment area groundwater temperature, the temperature-dependent reduction in NAPL viscosity, the groundwater recirculation flow rate, the weekly NAPL recovery rate, and the cumulative NAPL recovery volume. The decline curve analysis consisted of plotting these time-series data on several charts (Figures 17 through 21) to assess treatment progress toward asymptotic NAPL recovery. Figure 17 shows NAPL recovery rates and groundwater temperatures, recirculation flow rates, and elevations during the 2017 HWF treatment season; these same data for the 2016 treatment season are shown on Figure 18. Figure 19 shows cumulative NAPL recovery volumes, groundwater temperatures and recirculation flow rates, and NAPL viscosities during the 2016 treatment season; these same data for the 2017 treatment season are shown on Figure 20. Figure 21 presents a summary of the weekly NAPL recovery rates and cumulative NAPL recovery



volumes for the 2016 and 2017 treatment seasons. The performance monitoring data presented on Figures 17 through 21 are discussed below in the context of the conceptual model for HWF treatment.

As discussed in Section 2.0, Treatment System Operation Overview, effective HWF treatment generally comprises four observable phases of treatment:

- Phase I: Heating groundwater to raise subsurface temperatures, reduce NAPL viscosity, and increase NAPL mobility;
- Phase II: Maintaining elevated groundwater temperatures to attain maximum achievable NAPL recovery rates;
- Phase III: Maintaining elevated groundwater temperatures until NAPL recovery becomes asymptotic; and
- Phase IV: Discontinuing heating, allowing subsurface temperatures to return to ambient and increasing the viscosity of residual, immobile hydrocarbon.

Although the School Site HWF remediation was implemented over two treatment seasons (2016 and 2017), system performance data mirror a single period of continuous HWF operations as discussed below.

### **Phase I: Heating Groundwater to Raise Subsurface Temperatures, Reduce NAPL Viscosity, and Increase NAPL Mobility**

During the 2016 treatment season, hot water injection was initiated on June 15 (Figure 18). Over the next 5 weeks, groundwater temperatures increased from ambient (approximately 54°F) to the 100°F threshold for thermally enhanced remediation. The HWF system was shut down for 14 days during this 5-week period due to biological fouling of the GAC treatment vessels (see the 2016 HWF Remediation Performance Report for further discussion of this biofouling). Maximum groundwater temperatures of approximately 125°F were attained by August 3, 2016 (i.e., 7 weeks after the start of hot water injection), with a corresponding 95 percent reduction in NAPL viscosity relative to the viscosity at 50°F (Figures 16 and 19). NAPL mobilized by this viscosity reduction began accumulating in recovery well RW-9 during the week of July 20, 2016, 5 weeks after the start of hot water injection. The observed delay between the start of hot water injection and the onset of NAPL recovery is consistent with the conceptual model for HWF treatment (Figure 3), and represents the time required for groundwater to heat sufficiently for NAPL to mobilize and migrate to the recovery wells.

During the 2017 treatment season, hot water injection was initiated on June 15 (Figure 17). Groundwater temperatures increased steadily over the next 5.5 weeks, from 62°F at the start of hot water injection to 140°F by July 24. By July 24, the NAPL viscosity was reduced by approximately 98 percent relative to the viscosity at 50°F (Figures 16 and 20). The groundwater recirculation flow rate was maintained near 50 gpm during the 5.5 weeks that groundwater temperatures were increasing. In 2017, NAPL recovery began during the second week after the start of hot water



injection when the groundwater temperature was approximately 70 to 80°F (Figure 17), representing a continuation of the NAPL mobilization and recovery that began in 2016.

### **Phase II: Maintaining Elevated Groundwater Temperatures to Attain Maximum Achievable NAPL Recovery Rates**

During the 2016 treatment season, after groundwater temperatures reached the 100°F threshold for thermally enhanced remediation on July 20, groundwater temperatures were maintained between approximately 100 and 125°F for nearly 5 weeks (Figure 18). From the onset of NAPL recovery during the week of July 20 through the week of August 24, the NAPL recovery rate increased each week, from 0.6 gallon per week to 7.1 gallons per week (Figure 18). The maximum NAPL recovery rate of 7.1 gallons per week was not attained until the second week after hot water injection was discontinued for the season. NAPL recovery continued over the next 7 weeks (August 31 to October 19), declining from 4.0 gallons per week to 0.3 gallon per week. No further NAPL recovery occurred in 2016 after October 19. The observation that the maximum NAPL recovery rate was not attained until the second week after hot water injection ceased, when groundwater temperatures were declining but still above 90°F (Figure 18), suggested that HWF treatment was incomplete in 2016, and that additional NAPL could be mobilized with further HWF treatment.

During the 2017 treatment season, NAPL recovery rates increased to over 10 gallons per week within 4 weeks of initiating hot water injection (Figure 17). Maximum NAPL recovery rates were attained during the initial 5 weeks that groundwater temperatures were increasing and during the first 2 weeks of the 5-week period when groundwater temperatures were maintained between approximately 130 and 140°F (July 20 to August 24). The hydraulic gradient was optimized throughout the 10-week 2017 hot water injection period by maintaining the groundwater recirculation flow rate within the design range of 30 to 50 gpm.

### **Phase III: Maintaining Elevated Groundwater Temperatures Until NAPL Recovery Becomes Asymptotic**

During the 2016 treatment season, groundwater temperatures were maintained above the 100°F threshold for thermally enhanced remediation for nearly 5 weeks (Figure 18). The maximum NAPL recovery rate of 7.1 gallons per week was not attained until the second week after cessation of hot water injection on August 17 (Figure 18). Cumulative NAPL recovery became asymptotic only after hot water injection ceased, groundwater temperatures declined to less than 80°F, and groundwater recirculation flow rates fell below 30 gpm (Figure 19). This suggested that HWF treatment was incomplete in 2016.

During the 2017 treatment season, groundwater temperatures were maintained above the 100°F threshold for thermally enhanced remediation for approximately 10 weeks (Figure 17). The maximum NAPL recovery rate of 10.3 gallons per week was attained during the first week of this period (July 6 to 13). NAPL recovery continued for the following 3 weeks at rates between 6 and 10 gallons per week. Between August 3 and August 24, the NAPL recovery rate declined to 0 gallons per week. Significantly, this decline in the NAPL recovery rate occurred while the groundwater temperature was maintained between approximately 130 and 140°F and the



groundwater recirculation flow rate was maintained between 30 and 50 gpm (Figure 17). As shown on Figure 20, consistent with the conceptual model for HWF treatment (Figure 3), cumulative NAPL recovery became asymptotic during the period that groundwater temperature and hydraulic gradient conditions were optimized for NAPL recovery.

#### **Phase IV: Discontinuing Heating, Allowing Subsurface Temperatures to Return to Ambient and Increasing the Viscosity of Residual, Immobile Hydrocarbon**

During the 2016 treatment season, NAPL continued to be recovered for 9 weeks after the transition from HWF-mode to AWF-mode operations on August 17 (Figure 18). During this period, NAPL recovery rates generally decreased as groundwater temperatures and recirculation flow rates declined. No additional NAPL was recovered after groundwater temperatures fell below 80°F. The observation that NAPL continued to be recovered for 9 weeks after hot water injection ceased, and that NAPL recovery rates during this period generally decreased with declining groundwater temperature and recirculation flow rate, indicated that additional NAPL would likely be recovered with further HWF treatment in 2017.

As noted above, during the 2017 treatment season, NAPL recovery became asymptotic while the groundwater temperature was maintained between approximately 130 and 140°F and the groundwater recirculation flow rate was maintained between 30 and 50 gpm (Figure 20). A small amount of NAPL (0.9 gallon) was recovered during the week of August 24, the first week of AWF-mode operations (Figure 17). From August 23 to October 26, the groundwater temperature declined from approximately 140 to 68°F. The NAPL viscosity curve (Figure 16) shows that the NAPL viscosity at 68°F is approximately 1,400 percent (15 times) greater than the viscosity at 140°F. At ambient groundwater temperatures (approximately 54°F at the School Site), the viscosity of any remaining residual hydrocarbon would be 3,200 percent (33 times) greater than the viscosity at 140°F.

The asymptotic NAPL recovery observed during HWF-mode operations in 2017 (Figure 20), and the fact that no NAPL (other than the 3.5 gallons attributable to chemical/physical cleaning of recovery wells) was recovered during AWF-mode operations in September and October 2017, when groundwater temperatures were 15 to 55°F above ambient and groundwater recirculation flow rates were above 30 gpm (Figure 17), indicates that any residual hydrocarbon remaining in the treatment area is immobile. Natural attenuation processes such as biodegradation will deplete any remaining residual hydrocarbon over time.

The information presented above regarding the temporal behavior of NAPL recovery in 2016 and 2017 is summarized graphically in Figure 21. In addition to weekly NAPL recovery rates and cumulative NAPL recovery volumes, this figure shows the time periods when groundwater temperatures were maintained above the 100°F threshold for thermally enhanced remediation. Figure 21 shows that after 5 weeks of relatively high NAPL recovery rates in 2017 (weeks 23 to 27), the NAPL recovery rate decreased to zero and cumulative NAPL recovery became asymptotic during the period that groundwater temperature was maintained between approximately 130 and 140°F. This demonstrates that the endpoint for HWF treatment was reached, and therefore the treatment goal for the School Site was achieved, during the 2017 treatment season.



## **6.2 VOLUME OF GROUNDWATER TREATED/FLUSHED AND NONAQUEOUS-PHASE LIQUID RECOVERED**

Table 15 presents a summary of the volume of groundwater treated and flushed through the treatment area at various temperatures during the 2016 and 2017 HWF operations, and the volume of NAPL recovered during the two treatment seasons.

During the 2016 treatment season, approximately 5,528,000 gallons (17.8 pore volumes) of groundwater was treated and flushed through the treatment area. Of this amount, approximately 2,294,000 gallons (7.4 pore volumes) was treated during the period when groundwater temperatures were above the 100°F threshold for thermally enhanced remediation. During the 2017 treatment season, approximately 8,382,000 gallons (27.0 pore volumes) of groundwater was treated and flushed through the treatment area, of which approximately 4,576,000 gallons (14.8 pore volumes) was treated when groundwater temperatures were above 100°F. The total volume of groundwater treated and flushed through the treatment area in 2016 and 2017 was approximately 13,910,000 gallons (44.9 pore volumes), of which approximately 6,870,000 gallons (22.2 pore volumes) was treated when groundwater temperatures were above the 100°F threshold for thermally enhanced remediation.

A review of the remediation literature identified several HWF remediation bench studies or site remediation case histories that evaluated the number of pore volume flushes required for NAPL recovery and project closure (Davis 1995; O'Carroll and Sleep 2007; Leuschner et al. 1997). An HWF remediation project involving No. 6 oil at a Colorado site also was identified (Clayton 2009). These reports indicate that the required number of pore volume flushes ranged from 10 to 55, depending on factors such as NAPL characteristics, hydraulic conductivity, and hydraulic gradient. The 22.2 pore volume flushes (for temperatures above 100 degrees) that were completed to meet the School Site treatment goal is consistent with this range of values.

The total volume of NAPL recovered from the subsurface at the School Site in 2016 and 2017 was 98.3 gallons (40.2 gallons in 2016 and 58.1 gallons in 2017).



## 7.0 SUMMARY AND CONCLUSIONS

HWF remediation was conducted at the School Site in accordance with the CAP, the 2011 Design Report, and the 2015 CMP. As discussed in Section 6.1, NAPL Recovery Decline Curve Analysis, the 2016 and 2017 performance monitoring data indicate that the results of the HWF treatment were consistent with the conceptual model for HWF. In particular, the third phase of HWF treatment described in the conceptual model (i.e., maintaining elevated groundwater temperatures until NAPL recovery becomes asymptotic), and therefore the goal of the treatment, was achieved in 2017. During the 2017 treatment season:

- Optimal heating and hydraulic gradient conditions were attained, and then maintained throughout the treatment season;
- NAPL viscosity was reduced by approximately 90 to 98 percent during the 10 weeks that treatment area groundwater temperatures were maintained within the optimal range for thermally enhanced remediation (i.e., 100 to 140°F);
- NAPL removal rates attained maximum values of approximately 10 gallons per week, and then decreased to zero, while optimal heating and gradient conditions were maintained;
- Cumulative NAPL removal became asymptotic while optimal heating and gradient conditions were maintained; and
- Optimal heating and gradient conditions were maintained for 4 weeks after NAPL removal became asymptotic; only a small amount of NAPL (less than 1 gallon) was recovered during this period, and no NAPL was recovered during the last 2 weeks of the period.

The HWF performance monitoring data indicate that the treatment goal of reducing/removing separate-phase mobile or volatile liquid petroleum components or NAPL beneath the School to the extent technically possible has been achieved.



## 8.0 RECOMMENDATIONS

HWF and SVE equipment and infrastructure (e.g., wells, well vaults, and piping) will be decommissioned during the summer of 2018. HWF and SVE equipment removal and system decommissioning will consist of removing all aboveground components of the HWF and SVE systems and associated monitoring equipment in the School, including equipment enclosures and security fencing. Removable equipment installed in the recovery wells, recovery well vaults, and groundwater monitoring wells also will be removed. Injection wells, recovery wells, monitoring wells, and SVE wells will be decommissioned in accordance with Washington State standards for the construction and decommissioning of wells.

The northern portion of the sheet pile barrier wall, and an adjacent short segment of the western portion of the sheet pile barrier wall, is being evaluated to be retained as an added permanent level of protectiveness to impede groundwater flow between the School and the Skykomish River. The eastern, southern, and western portions of the sheet pile barrier wall will be removed.

Site restoration (which includes the School property and adjoining Town right of way) will consist of restoring the portions of the School and the areas of Railroad Avenue and 6<sup>th</sup> Street disturbed by HWF and SVE system construction and decommissioning. Site restoration also will include restoring utilities and exterior landscaped areas, paved surfaces, and sidewalks disturbed by system decommissioning and sheet pile removal. The restoration work will be coordinated with the School District and the Town of Skykomish as needed.

Ecology has determined that an environmental covenant that includes institutional controls will be required to ensure awareness and proper management of remaining contamination on the School property. Ecology and BNSF will work together to prepare an environmental covenant that satisfies the needs of the Site for the long term. The environmental covenant will be filed after restoration of the School Site is completed.



## 9.0 REFERENCES

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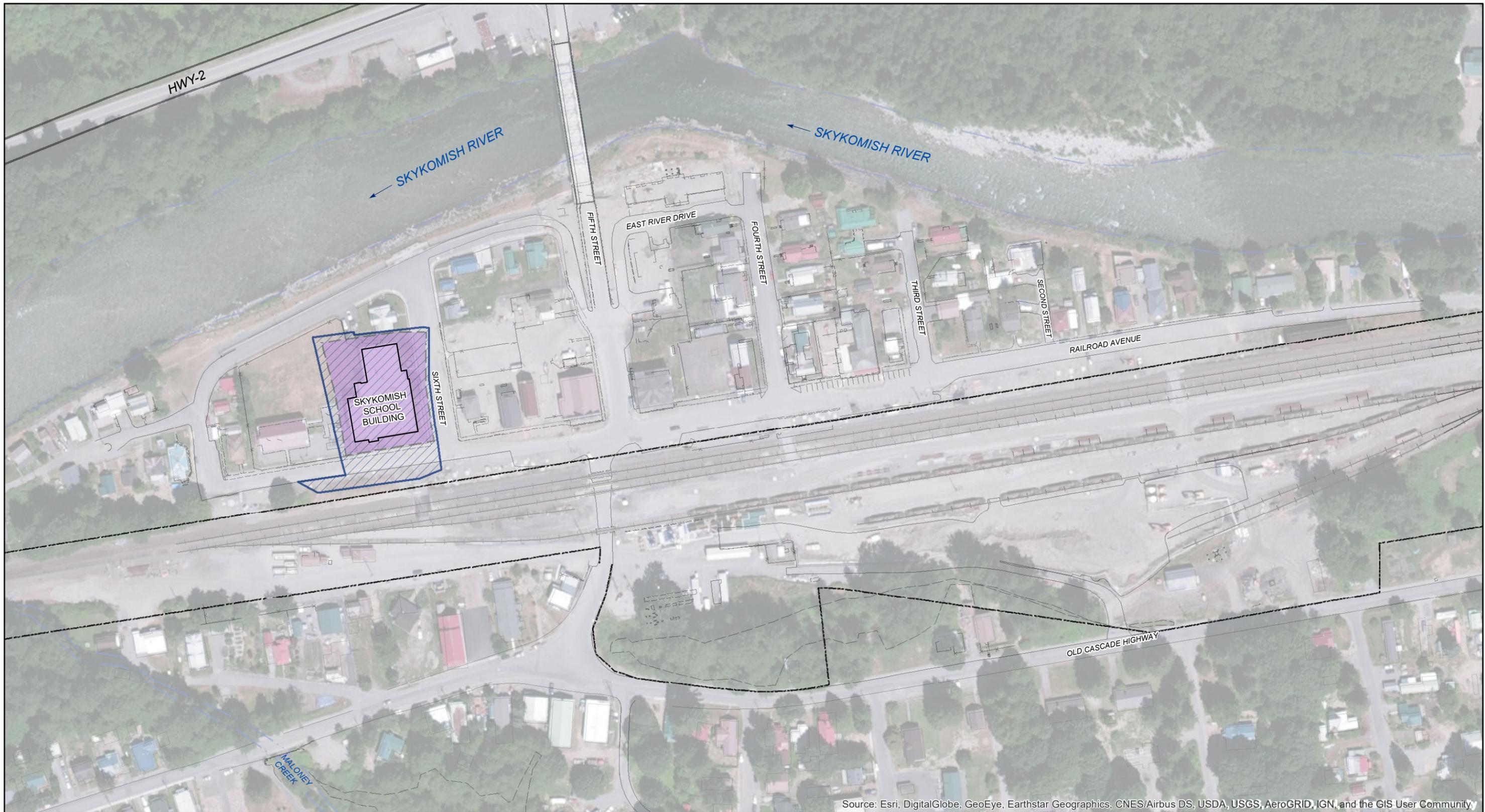
Washington State Department of Ecology. 2007. *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*. Exhibit B of Consent Decree No. 07-2-33672-9 SEA between the Washington State Department of Ecology and BNSF Railway Company. October 18.

## **FIGURES**

### **2017 HOT WATER FLUSHING REMEDIATION PERFORMANCE REPORT**

**Skykomish School  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington**

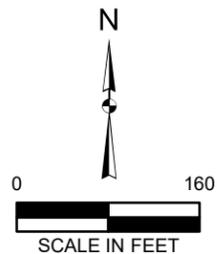
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**LEGEND**

-  SKYKOMISH SCHOOL SITE
-  FOOTPRINT OF HOT WATER FLUSHING SYSTEM AT THE SKYKOMISH SCHOOL SITE
-  BNSF RIGHT OF WAY




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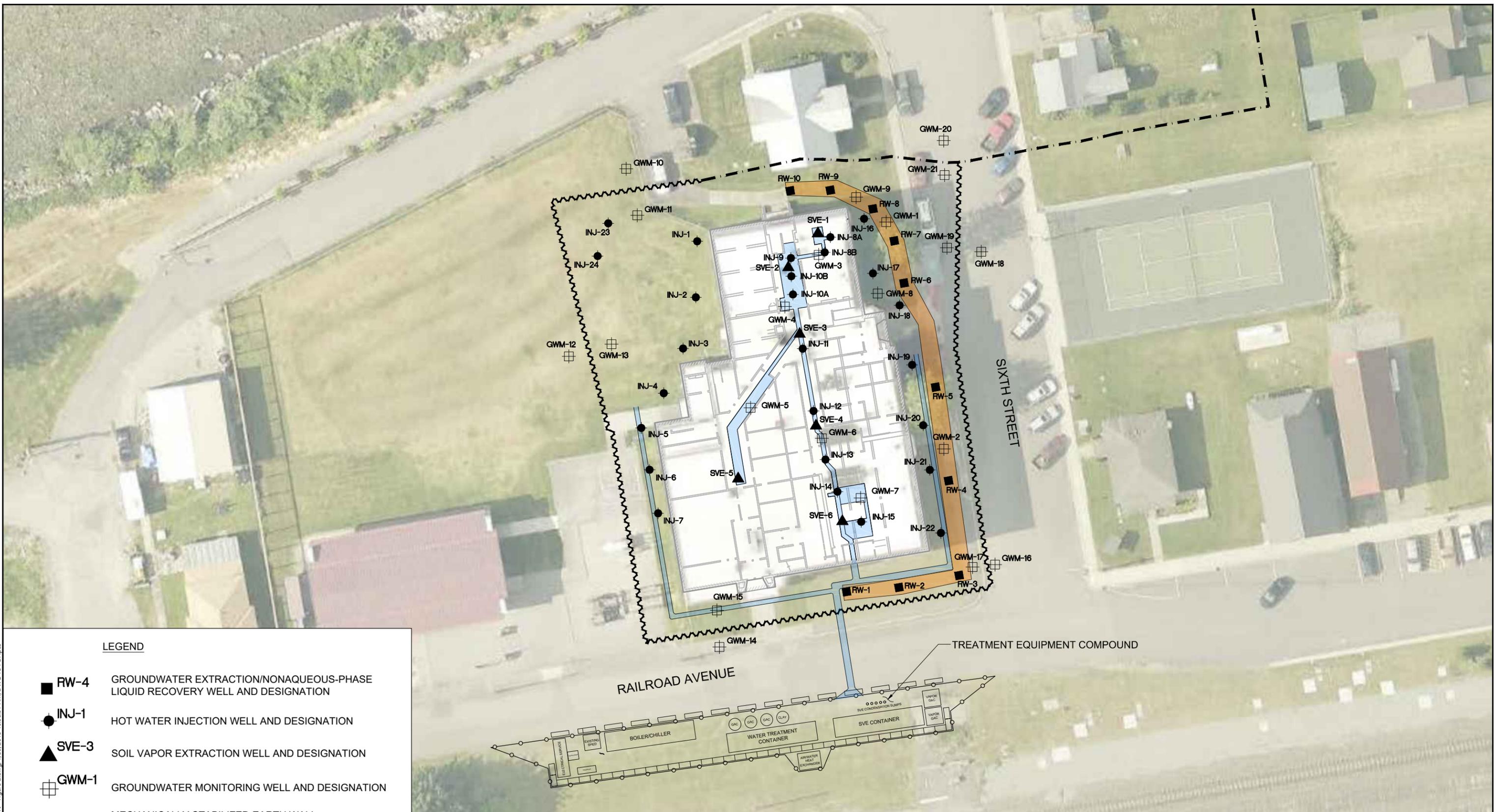
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**FIGURE 1**  
SITE LOCATION MAP  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
SKYKOMISH SCHOOL  
BNSF FORMER MAINTENANCE AND FUELING FACILITY  
SKYKOMISH, WASHINGTON  
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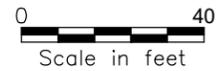
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**LEGEND**

- RW-4** GROUNDWATER EXTRACTION/NONAQUEOUS-PHASE LIQUID RECOVERY WELL AND DESIGNATION
- INJ-1** HOT WATER INJECTION WELL AND DESIGNATION
- SVE-3** SOIL VAPOR EXTRACTION WELL AND DESIGNATION
- GWM-1** GROUNDWATER MONITORING WELL AND DESIGNATION
- MECHANICALLY STABILIZED EARTH WALL
- SHEET PILE BARRIER WALL
- GROUNDWATER AND NONAQUEOUS-PHASE LIQUID RECOVERY TRENCH
- HOT WATER FLUSHING SYSTEM PIPING CORRIDOR

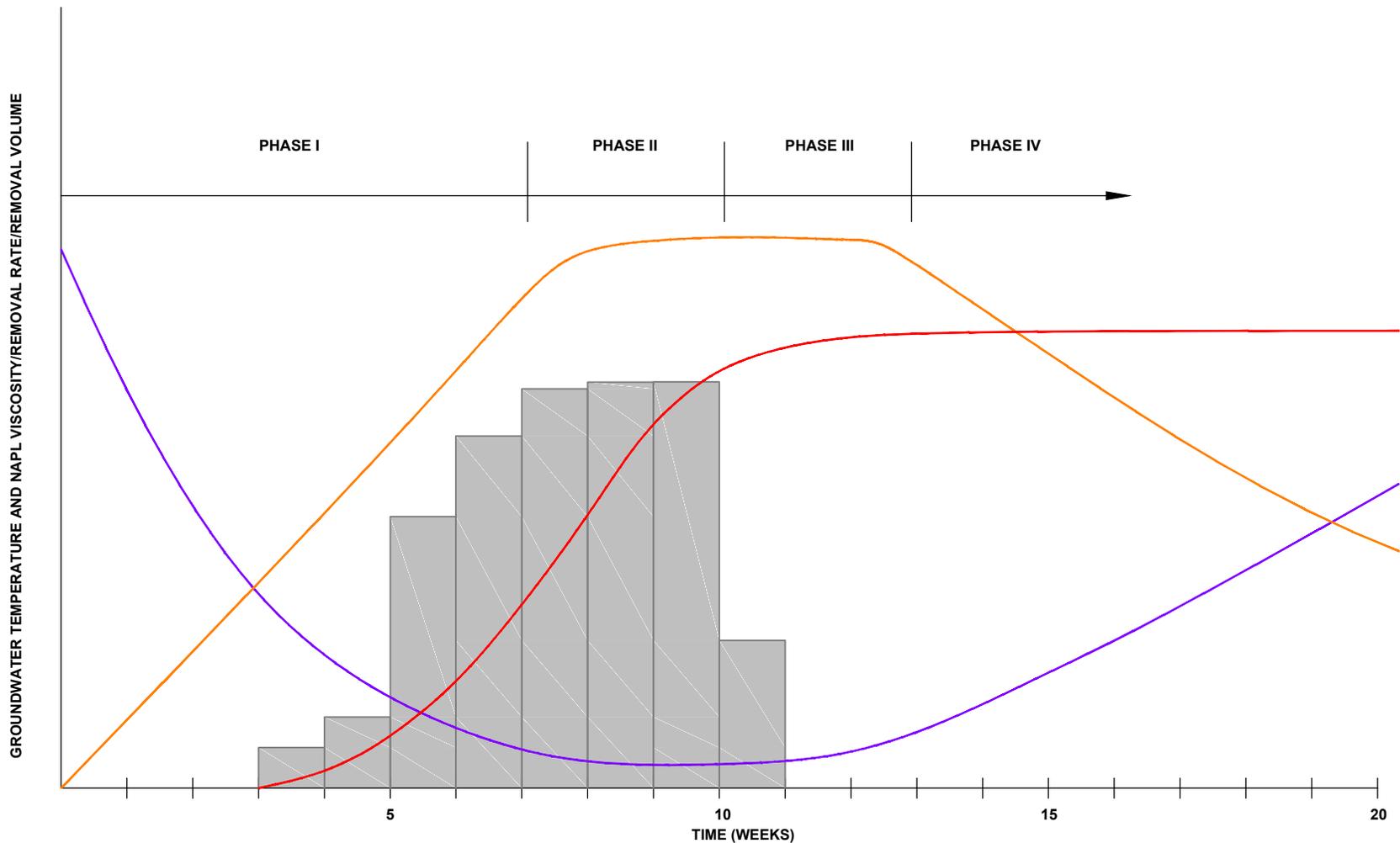


  
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**FIGURE 2**  
 HOT WATER FLUSHING SYSTEM LAYOUT  
 2017 HOT WATER FLUSHING REMEDIATION  
 PERFORMANCE REPORT  
 SKYKOMISH SCHOOL  
 BNSF FORMER MAINTENANCE AND FUELING FACILITY  
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NAPL = NONAQUEOUS-PHASE LIQUID

-  GROUNDWATER TEMPERATURE
-  NAPL VISCOSITY
-  CUMULATIVE NAPL REMOVAL VOLUME
-  WEEKLY NAPL REMOVAL RATE



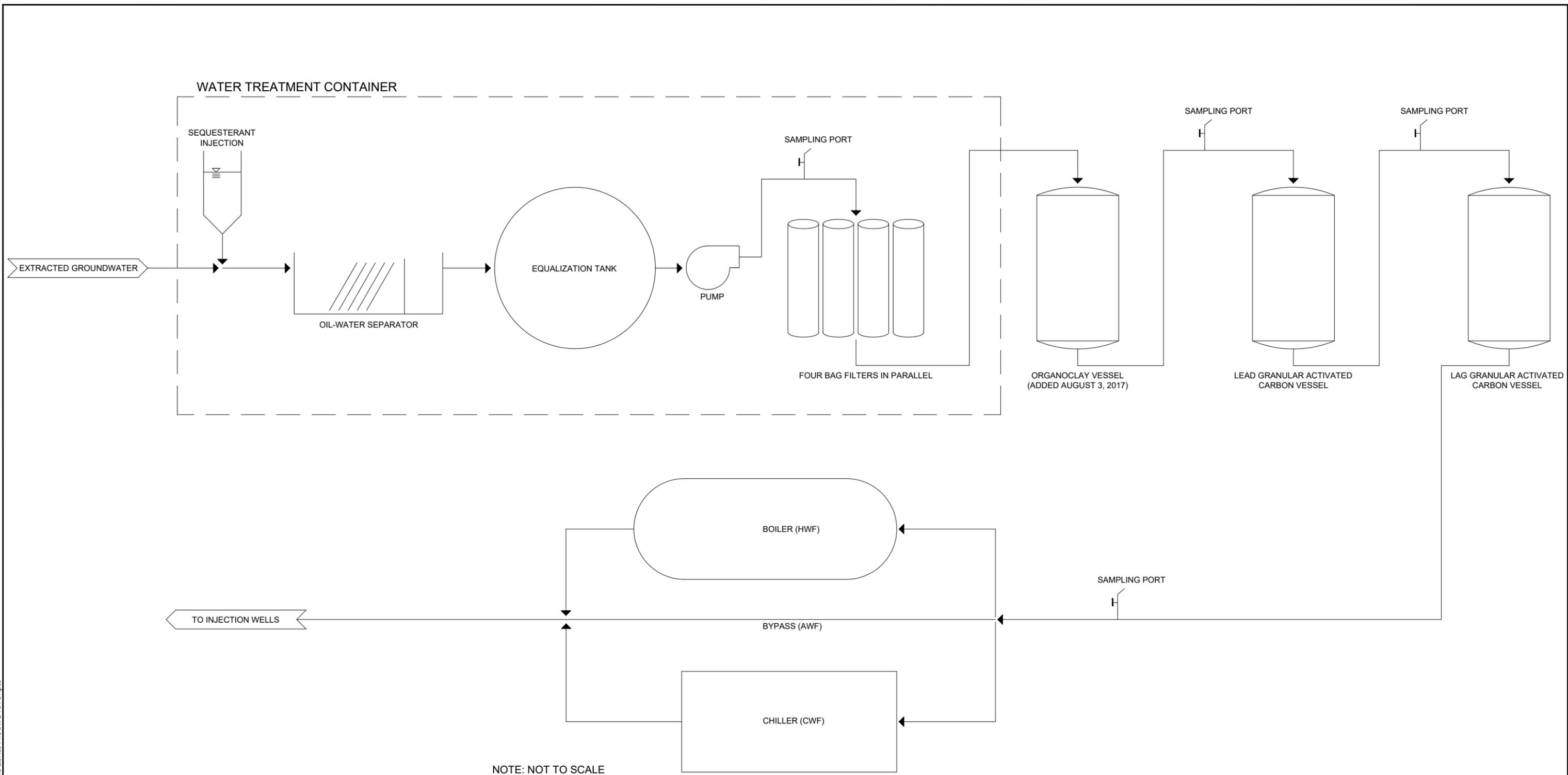
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**FIGURE 3**  
CONCEPTUAL MODEL OF HOT WATER FLUSHING TREATMENT  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
SKYKOMISH SCHOOL  
BNSF FORMER MAINTENANCE AND FUELING FACILITY  
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**HOT WATER FLUSHING SYSTEM PROCESS FLOW SCHEMATIC**

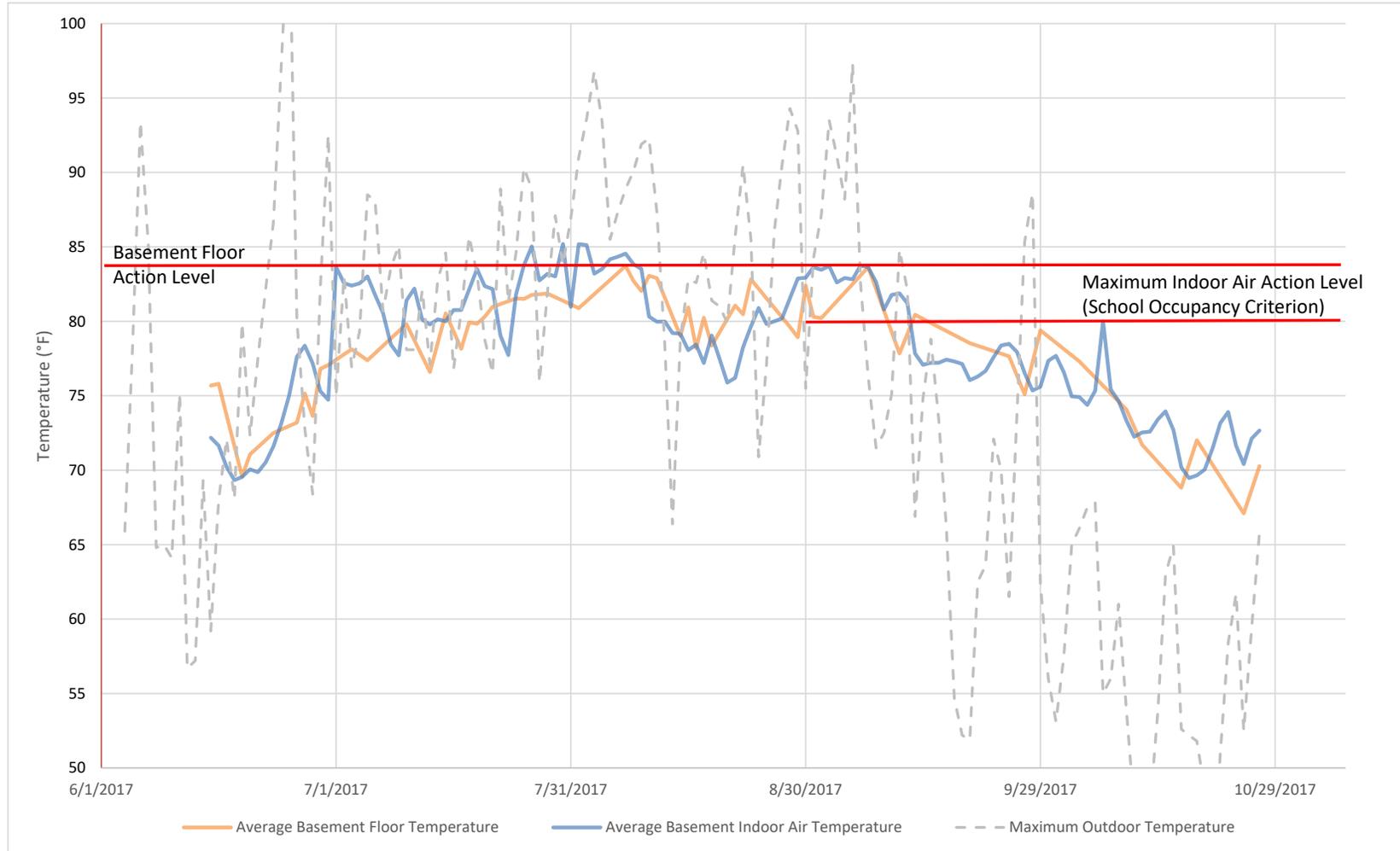
NOTES:  
 HWF = HOT WATER FLUSHING  
 AWF = AMBIENT WATER FLUSHING  
 CWF = COLD WATER FLUSHING



**FIGURE 4**  
 HOT WATER FLUSHING SYSTEM PROCESS FLOW SCHEMATIC  
 2017 HOT WATER FLUSHING REMEDIATION  
 PERFORMANCE REPORT  
 SKYKOMISH SCHOOL  
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**Figure 5**  
**Basement Floor, Indoor Air, and Maximum Outdoor Temperatures**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
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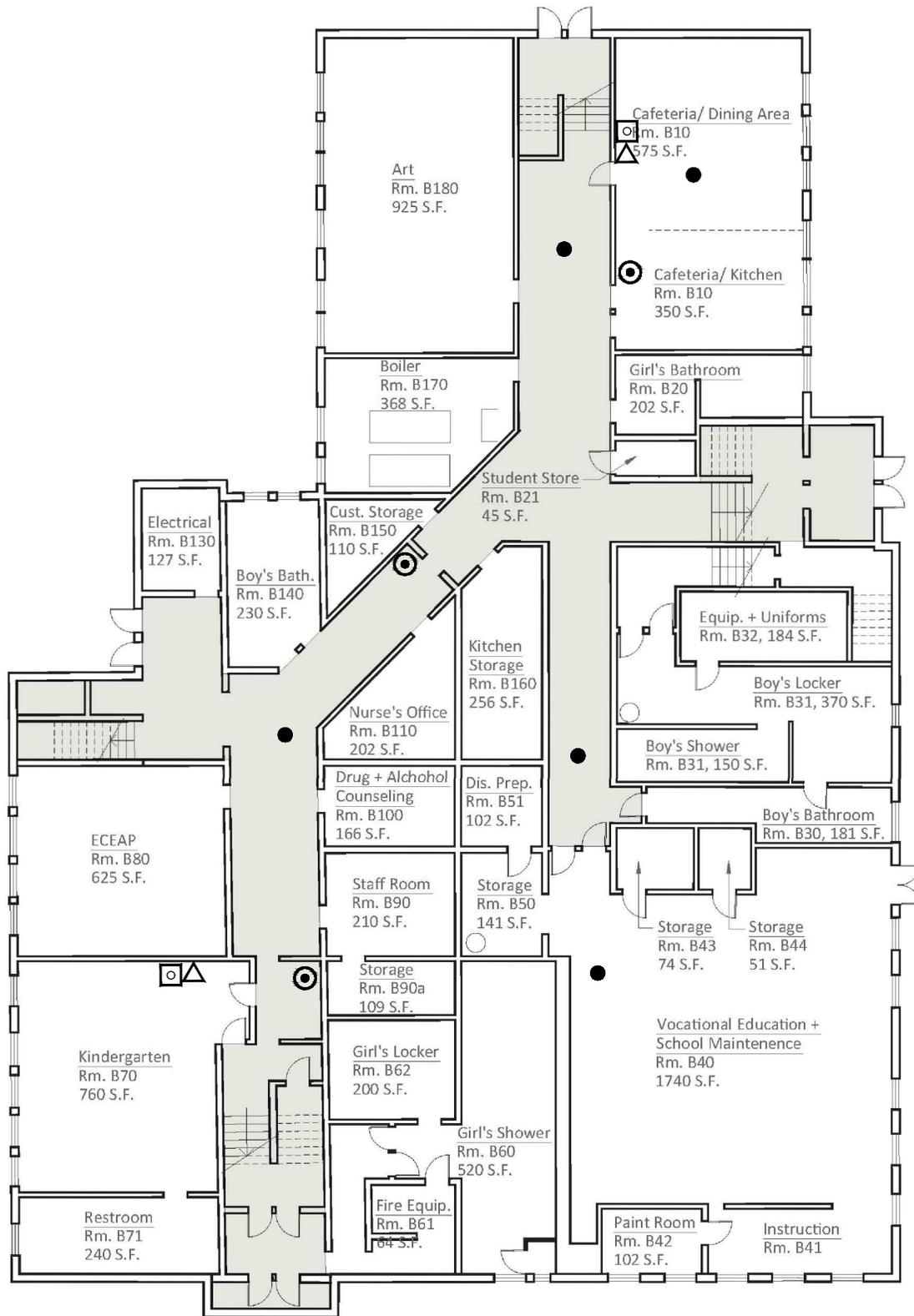


**NOTES:**

Indoor air temperatures measured using Log Tag HAXO-8 Humidity and Temperature Recorder thermometers. Indoor air temperatures shown are the daily average of one or two locations depending on the date (see Table 5). Basement floor temperatures were measured using a General IRT-206 Infrared Thermometer. Floor temperatures shown are the average of five locations (see Table 4).

Outdoor temperatures were measured at Riverwood Personal Weather Station Baring, WA KWABARIN3.

Project action levels are defined in Addendum No. 3 to 2010 Compliance Monitoring Plan Update dated February 17, 2015, prepared by Farallon Consulting, L.L.C. The maximum indoor air action level shown was applicable when school was in session; see report text for the applicable action level when school was not in session.



**LEGEND**

-  PHOTOIONIZATION DETECTOR LOCATION
-  AIR SAMPLING LOCATION
-  INDOOR AIR TEMPERATURE MONITORING LOCATION
-  FLOOR TEMPERATURE MONITORING LOCATION



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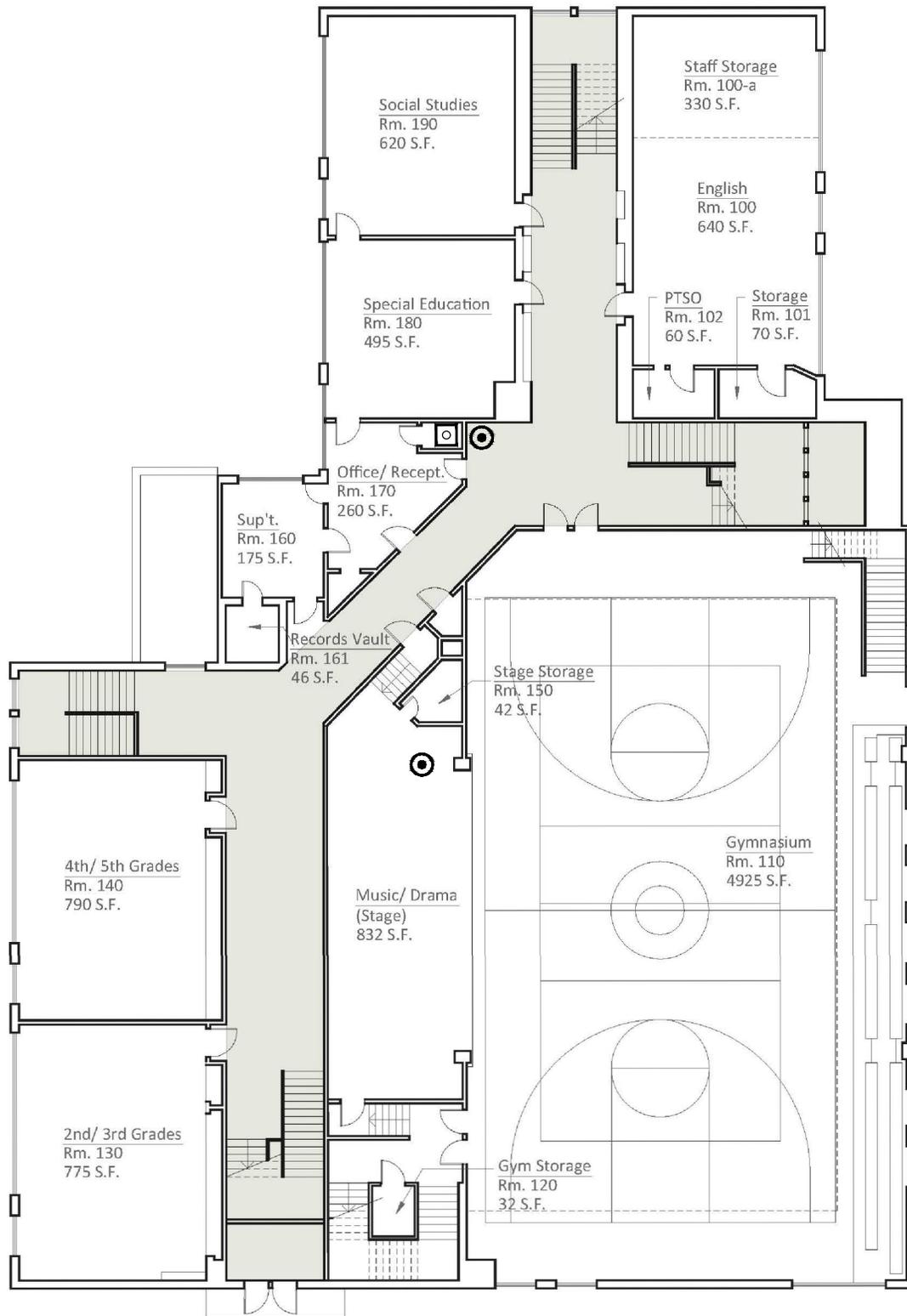
**FIGURE 6**  
**BASEMENT TEMPERATURE AND AIR QUALITY MONITORING LOCATIONS**  
 2017 HOT WATER FLUSHING REMEDIATION PERFORMANCE REPORT  
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NOTE:  
BASEMAP FROM SKYKOMISH SCHOOL DISTRICT EDUCATIONAL SPECIFICATIONS

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**LEGEND**

-  PHOTOIONIZATION DETECTOR LOCATION
-  AIR SAMPLING LOCATION



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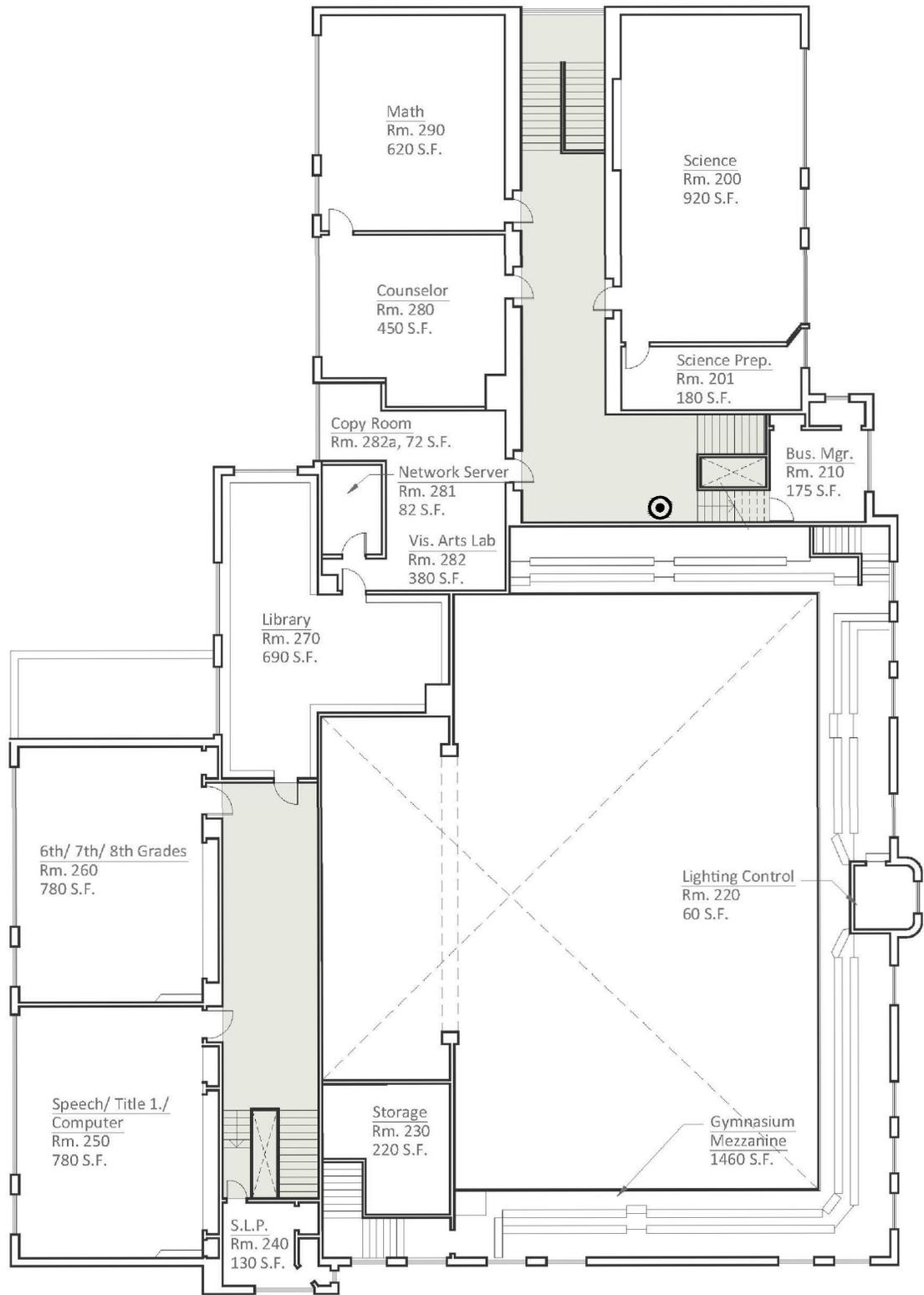
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**FIGURE 7**

FIRST FLOOR AIR QUALITY MONITORING LOCATIONS  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
SKYKOMISH SCHOOL  
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**LEGEND**

 AIR SAMPLING LOCATION

**NOTE:**

BASEMAP FROM SKYKOMISH SCHOOL DISTRICT EDUCATIONAL SPECIFICATIONS




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**FIGURE 8**

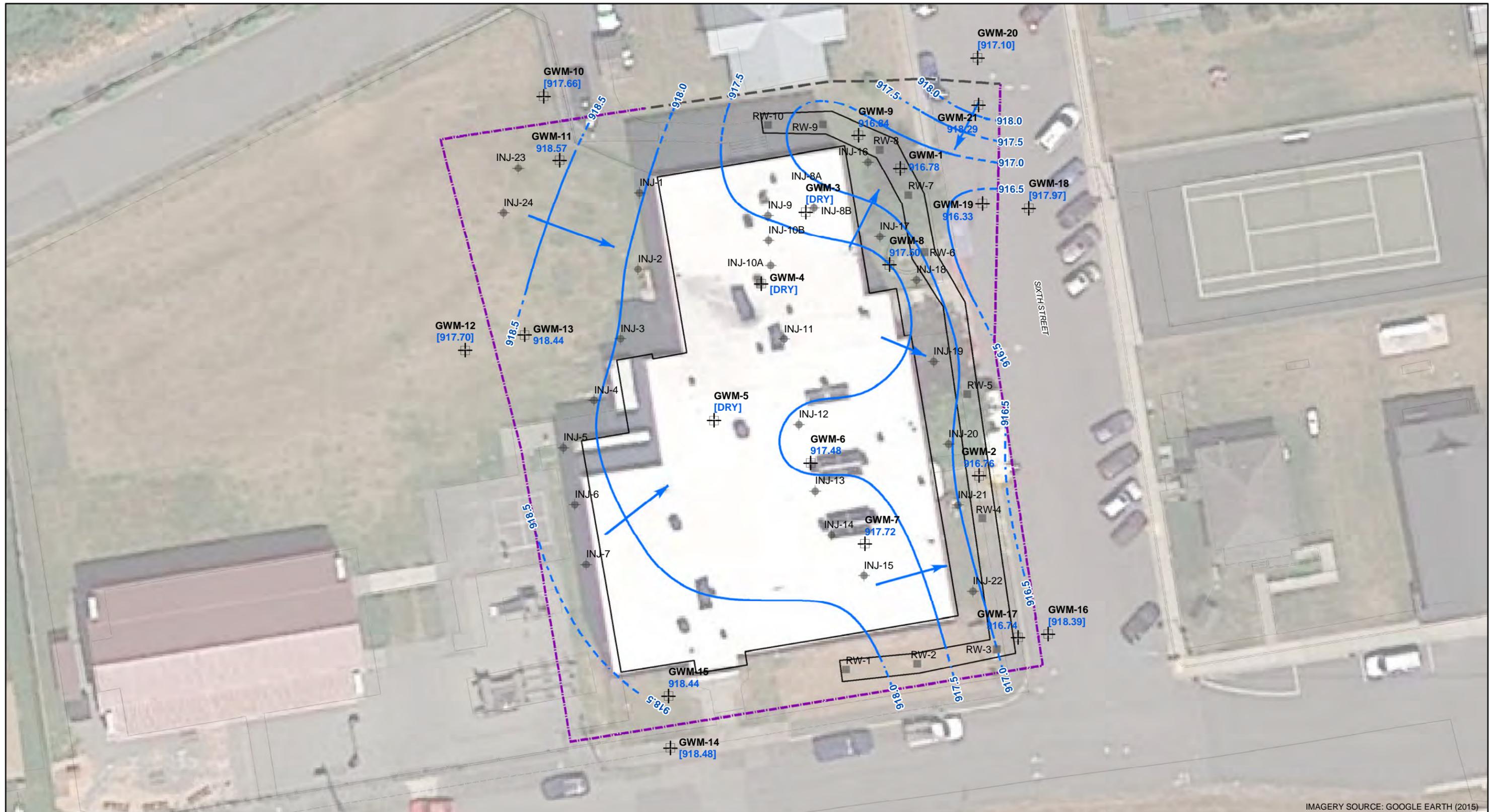
SECOND FLOOR AIR QUALITY MONITORING LOCATION  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
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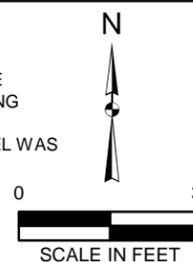
IMAGERY SOURCE: GOOGLE EARTH (2015)

**LEGEND**

- GROUNDWATER MONITORING WELL
- GROUNDWATER EXTRACTION/NONAQUEOUS-PHASE LIQUID RECOVERY WELL
- INJECTION WELL
- SHEET PILE BARRIER WALL
- MECHANICALLY STABILIZED EARTH WALL

- 916.84** GROUNDWATER ELEVATION
- [917.66]** GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- 917.20 -** APPROXIMATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

NOTES:  
 GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON DATA FROM TREATMENT AREA MONITORING (GWM) WELLS (i.e., WELLS INSIDE THE SHEET PILE BARRIER WALL) IN WHICH THE GROUNDWATER LEVEL WAS ABOVE THE BOTTOM OF THE WELL SCREEN.  
 GROUNDWATER ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL



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**FIGURE 9**  
 JUNE 22, 2017 GROUNDWATER ELEVATIONS  
 2017 HOT WATER FLUSHING REMEDIATION  
 PERFORMANCE REPORT  
 SKYKOMISH SCHOOL  
 BNSF FORMER MAINTENANCE AND FUELING FACILITY  
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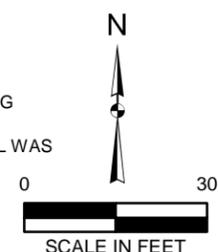


IMAGERY SOURCE: GOOGLE EARTH (2015)

**LEGEND**

- ⊕ GROUNDWATER MONITORING WELL
- GROUNDWATER EXTRACTION/NONAQUEOUS-PHASE LIQUID RECOVERY WELL
- ◆ INJECTION WELL
- SHEET PILE BARRIER WALL
- - - MECHANICALLY STABILIZED EARTH WALL
- 916.84 GROUNDWATER ELEVATION
- 917.66 GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- 917.20 - - - APPROXIMATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- ← APPROXIMATE DIRECTION OF GROUNDWATER FLOW

NOTES:  
 GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON DATA FROM TREATMENT AREA MONITORING (GWM) WELLS (I.E., WELLS INSIDE THE SHEET PILE BARRIER WALL) IN WHICH THE GROUNDWATER LEVEL WAS ABOVE THE BOTTOM OF THE WELL SCREEN.  
 GROUNDWATER ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL



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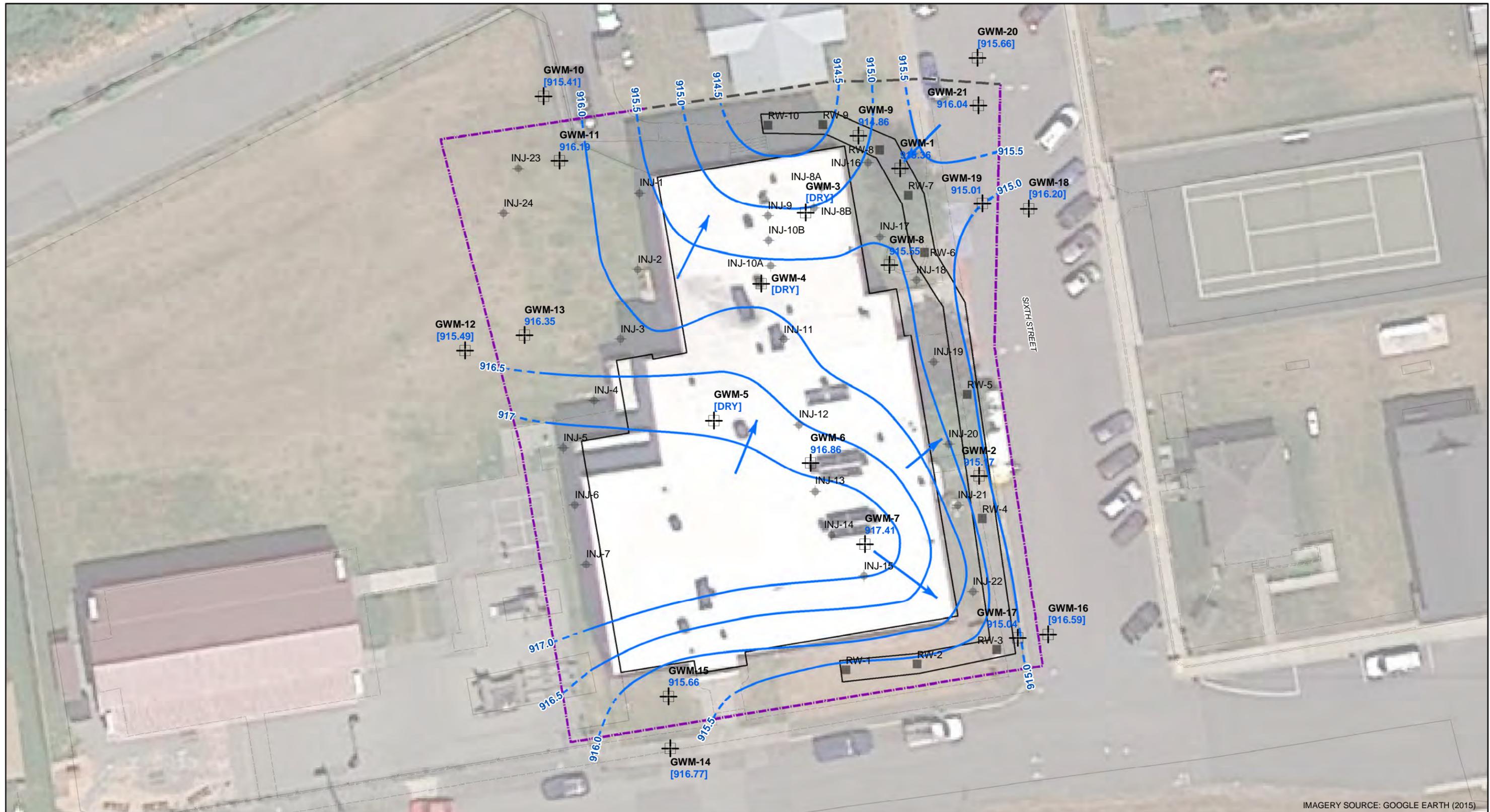
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**FIGURE 10**  
 JULY 22, 2017 GROUNDWATER ELEVATIONS  
 2017 HOT WATER FLUSHING REMEDIATION  
 PERFORMANCE REPORT  
 SKYKOMISH SCHOOL  
 BNSF FORMER MAINTENANCE AND FUELING FACILITY  
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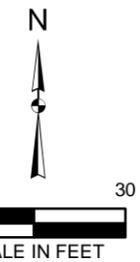


IMAGERY SOURCE: GOOGLE EARTH (2015)

**LEGEND**

- GROUNDWATER MONITORING WELL
- GROUNDWATER EXTRACTION/NONAQUEOUS-PHASE LIQUID RECOVERY WELL
- INJECTION WELL
- SHEET PILE BARRIER WALL
- MECHANICALLY STABILIZED EARTH WALL
- 916.84** GROUNDWATER ELEVATION
- [917.66]** GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- 917.20** — APPROXIMATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

NOTES:  
 GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON DATA FROM TREATMENT AREA MONITORING (GWM) WELLS (I.E., WELLS INSIDE THE SHEET PILE BARRIER WALL) IN WHICH THE GROUNDWATER LEVEL WAS ABOVE THE BOTTOM OF THE WELL SCREEN.  
 GROUNDWATER ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL



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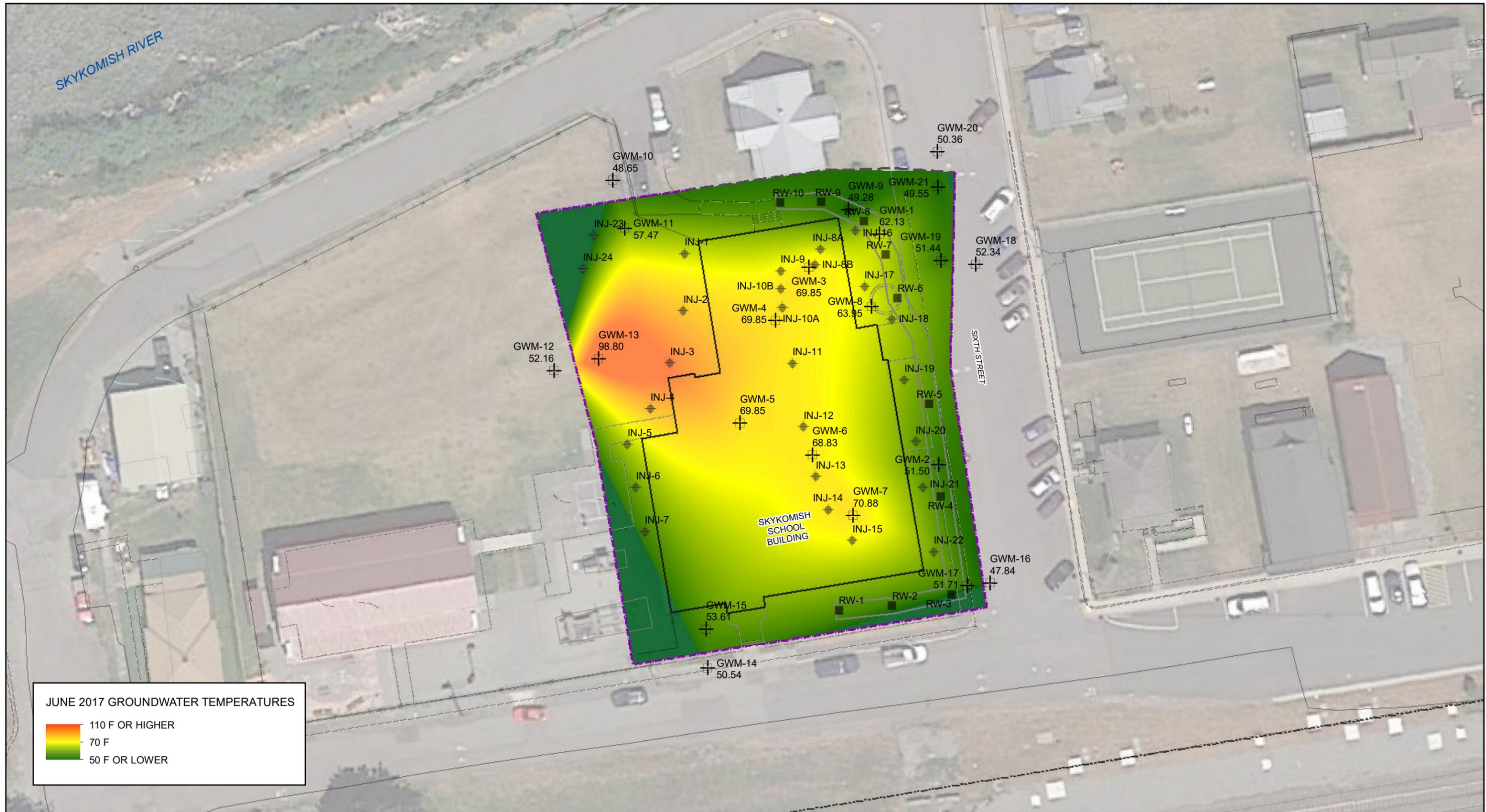
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Drawn By: pemahiser      Checked By: RL      Date: 1/23/2018

**FIGURE 11**  
 AUGUST 22, 2017 GROUNDWATER ELEVATIONS  
 2017 HOT WATER FLUSHING REMEDIATION  
 PERFORMANCE REPORT  
 SKYKOMISH SCHOOL  
 BNSF FORMER MAINTENANCE AND FUELING FACILITY  
 SKYKOMISH, WASHINGTON  
 FARALLON PN: 683-067

Disc Reference:  
 Document Path: Q:\Projects\683 BNSF\057 HWF\_CONSTRUCTION\HWF 2017\FIGURE 11\_HWF GW AUG17.mxd



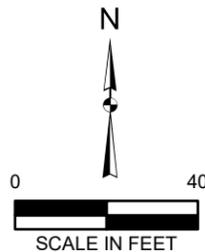
**LEGEND**

- GROUNDWATER MONITORING WELL
- GROUNDWATER EXTRACTION /NONAQUEOUS-PHASE LIQUID RECOVERY WELL
- INJECTION WELL
- BNSF RIGHT-OF-WAY

- SHEET PILE BARRIER WALL
- MECHANICALLY STABILIZED EARTH WALL

NOTE:  
GROUNDWATER TEMPERATURE CONTOURS SHOWN ARE BASED ON DATA FROM MONITORING (GWM) WELLS IN WHICH THE GROUNDWATER LEVEL WAS ABOVE THE BOTTOM OF THE WELL SCREEN. GROUNDWATER WAS BELOW THE BOTTOM OF THE WELL SCREENS FOR GWM-3, GWM-4, AND GWM-5; TEMPERATURES SHOWN FOR THESE WELLS ARE BASED ON THE AVERAGE OF WELLS GWM-6 AND GWM-7.

IMAGERY SOURCE: GOOGLE EARTH (2015)



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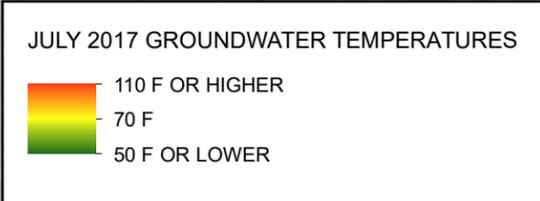
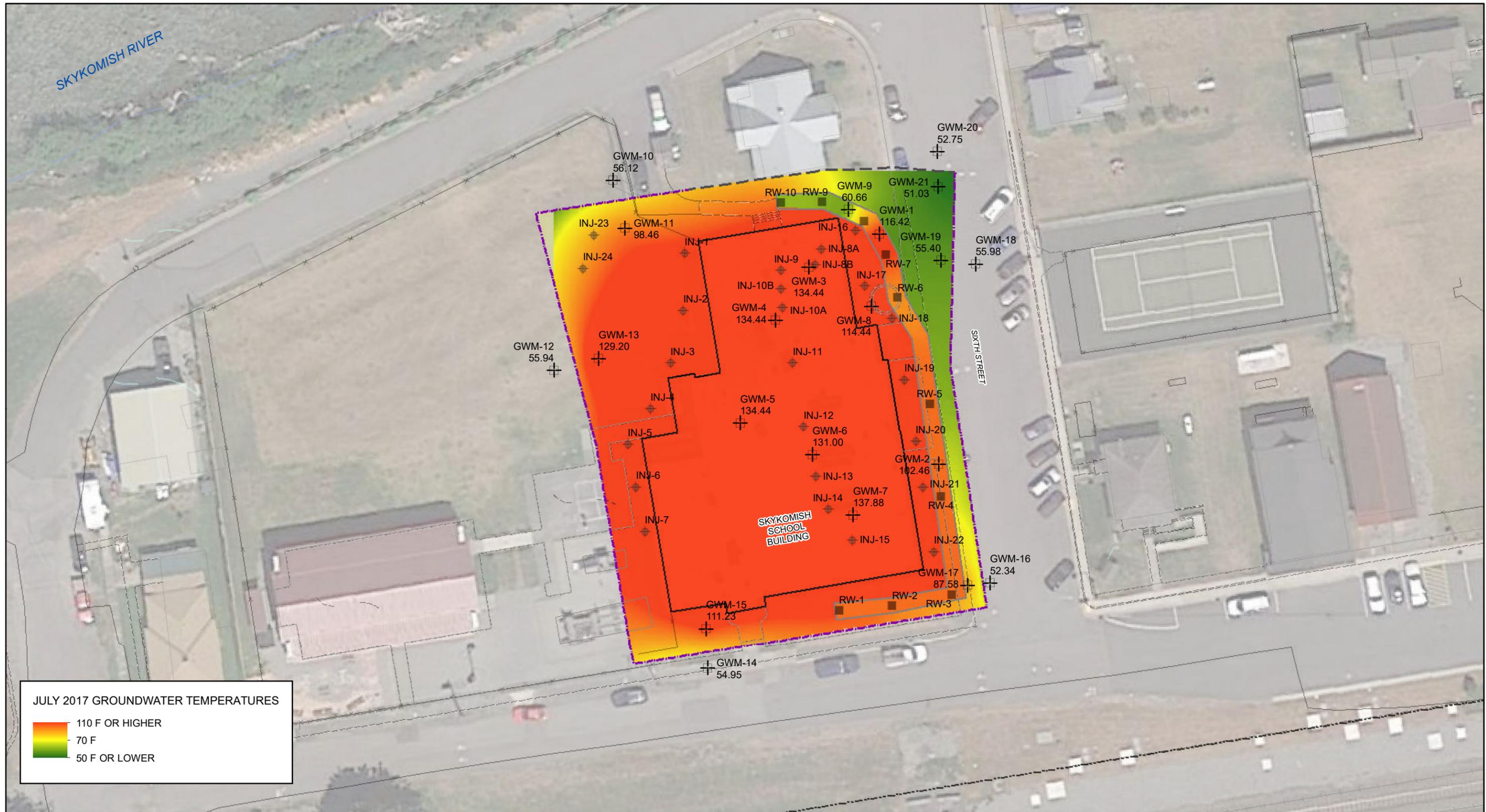
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Portland | Bend | Baker City

California  
Oakland | Sacramento | Irvine

Drawn By: tperrin      Checked By: RL      Date: 1/22/2018

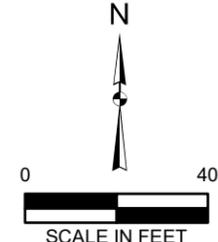
**FIGURE 12**  
JUNE 22, 2017 GROUNDWATER TEMPERATURES  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
SKYKOMISH SCHOOL  
BNSF FORMER MAINTENANCE AND FUELING FACILITY  
SKYKOMISH, WASHINGTON  
FARALLON PN: 683-067

Disc Reference:  
Q:\Projects\683 BNSF\057 HWF\_CONSTRUCTION\HWF 2017\FIGURE 12\_HWFTemp\_JUNE17.mxd



- LEGEND**
- GROUNDWATER MONITORING WELL
  - GROUNDWATER EXTRACTION /NONAQUEOUS-PHASE LIQUID RECOVERY WELL
  - INJECTION WELL
  - BNSF RIGHT-OF-WAY
  - SHEET PILE BARRIER WALL
  - MECHANICALLY STABILIZED EARTH WALL

NOTE:  
GROUNDWATER TEMPERATURE CONTOURS SHOWN ARE BASED ON DATA FROM MONITORING (GWM) WELLS IN WHICH THE GROUNDWATER LEVEL WAS ABOVE THE BOTTOM OF THE WELL SCREEN. GROUNDWATER WAS BELOW THE BOTTOM OF THE WELL SCREENS FOR GWM-3, GWM-4, AND GWM-5; TEMPERATURES SHOWN FOR THESE WELLS ARE BASED ON THE AVERAGE OF WELLS GWM-6 AND GWM-7.



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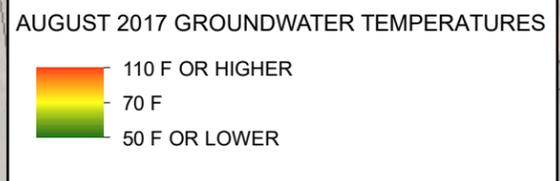
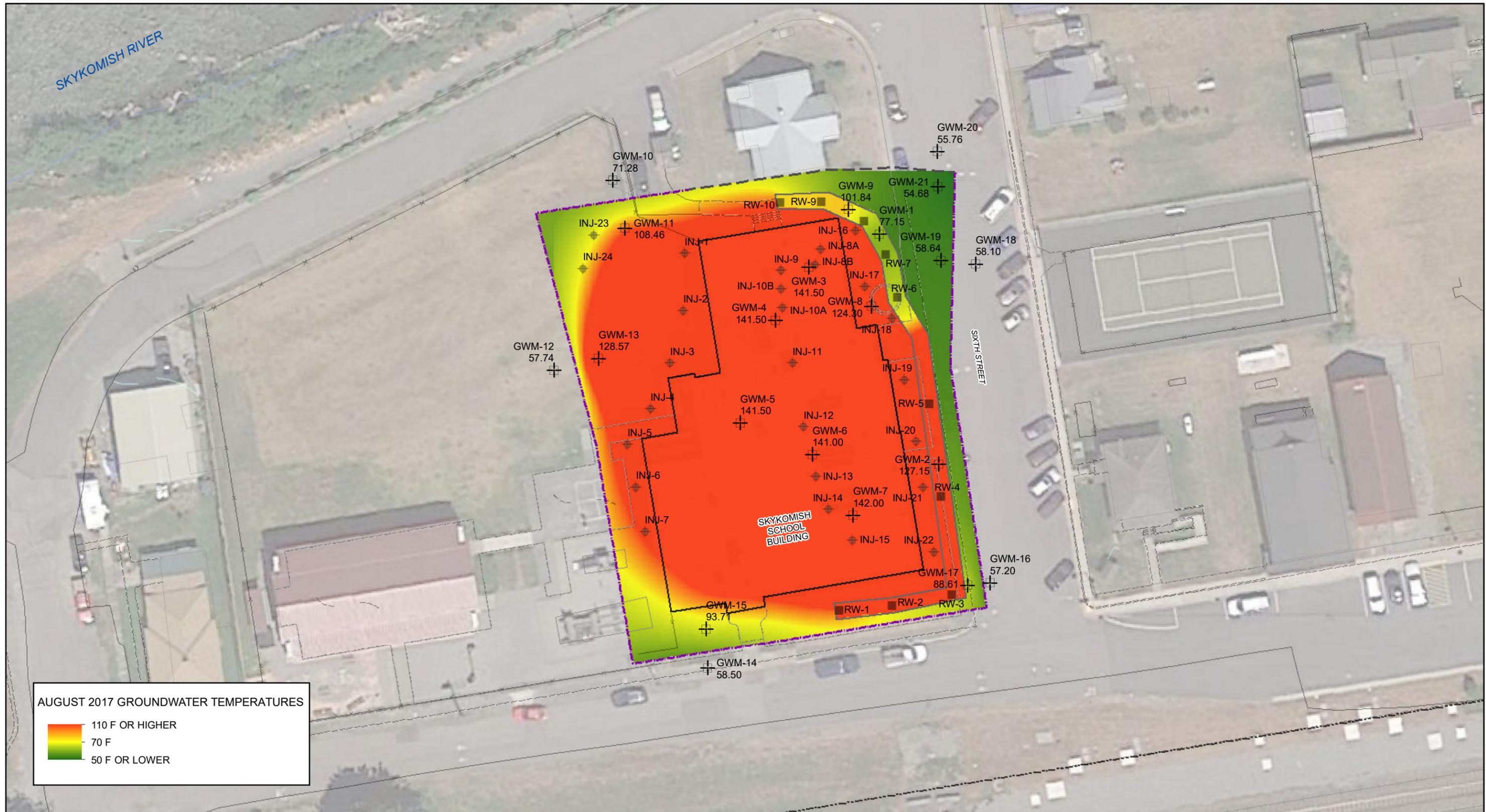
California  
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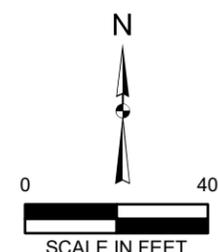
Drawn By: tperrin      Checked By: RL      Date: 1/22/2018

**FIGURE 13**  
JULY 22, 2017 GROUNDWATER TEMPERATURES  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
SKYKOMISH SCHOOL  
BNSF FORMER MAINTENANCE AND FUELING FACILITY  
SKYKOMISH, WASHINGTON  
FARALLON PN: 683-067



- LEGEND**
- ⊕ GROUNDWATER MONITORING WELL
  - GROUNDWATER EXTRACTION /NONAQUEOUS-PHASE LIQUID RECOVERY WELL
  - ◆ INJECTION WELL
  - - - - BNSF RIGHT-OF-WAY
  - SHEET PILE BARRIER WALL
  - - - MECHANICALLY STABILIZED EARTH WALL

NOTE:  
GROUNDWATER TEMPERATURE CONTOURS SHOWN ARE BASED ON DATA FROM MONITORING (GWM) WELLS IN WHICH THE GROUNDWATER LEVEL WAS ABOVE THE BOTTOM OF THE WELL SCREEN. GROUNDWATER WAS BELOW THE BOTTOM OF THE WELL SCREENS FOR GWM-3, GWM-4, AND GWM-5; TEMPERATURES SHOWN FOR THESE WELLS ARE BASED ON THE AVERAGE OF WELLS GWM-6 AND GWM-7.



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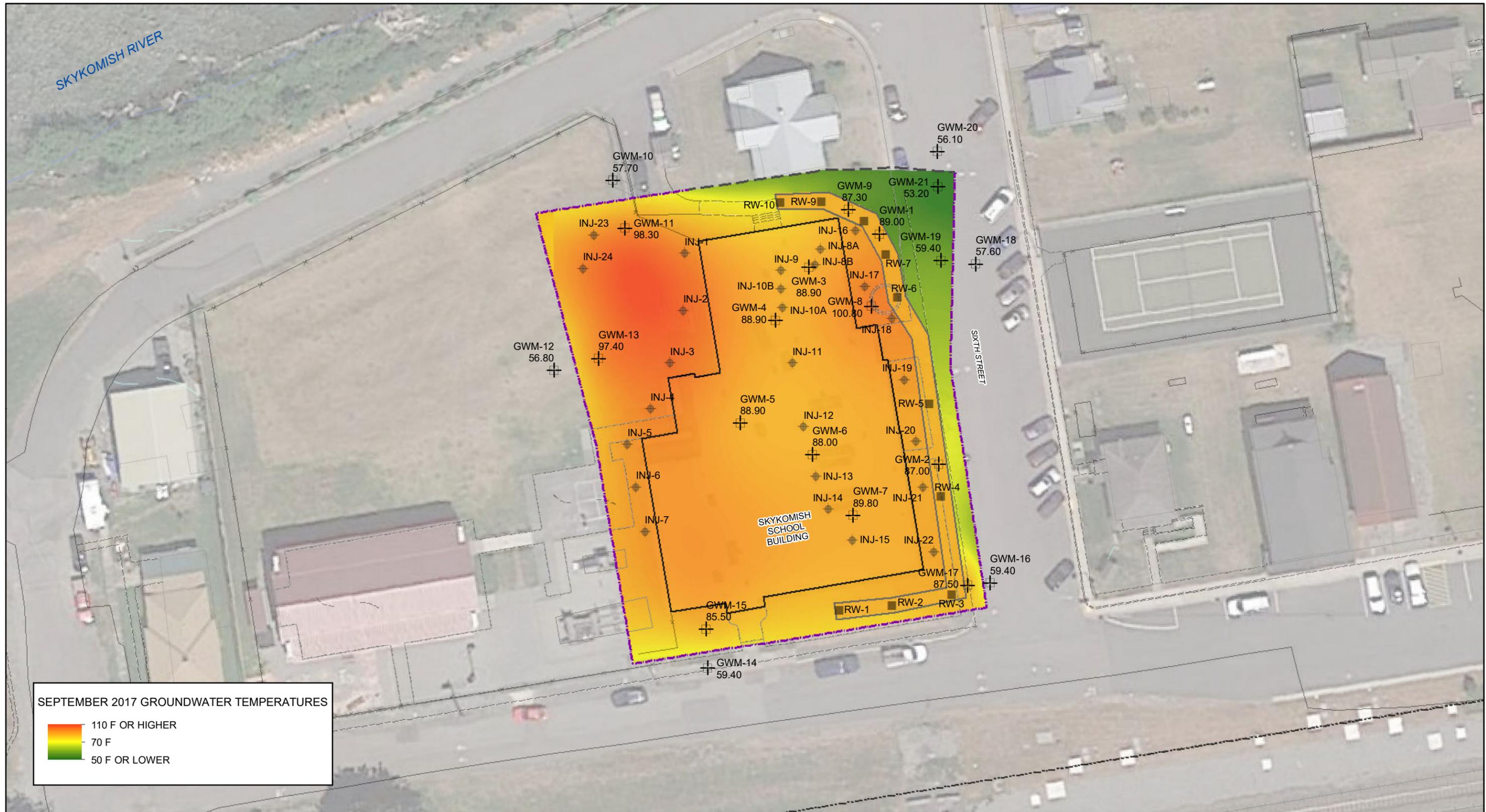
California  
Oakland | Sacramento | Irvine

Drawn By: tperrin      Checked By: RL      Date: 1/22/2018

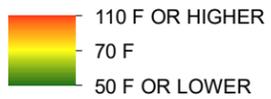
**FIGURE 14**  
AUGUST 22, 2017 GROUNDWATER TEMPERATURES  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
SKYKOMISH SCHOOL  
BNSF FORMER MAINTENANCE AND FUELING FACILITY  
SKYKOMISH, WASHINGTON  
FARALLON PN: 683-067

IMAGERY SOURCE: GOOGLE EARTH (2015)

Disc Reference: Q:\Projects\683 BNSF\057 HWF\_CONSTRUCTION\HWF 2017\FIGURE 14\_HWFTemp\_AUG17.mxd



SEPTEMBER 2017 GROUNDWATER TEMPERATURES

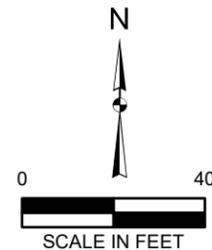


LEGEND

- GROUNDWATER MONITORING WELL
- GROUNDWATER EXTRACTION /NONAQUEOUS-PHASE LIQUID RECOVERY WELL
- INJECTION WELL
- BNSF RIGHT-OF-WAY
- SHEET PILE BARRIER WALL
- MECHANICALLY STABILIZED EARTH WALL

NOTE:  
GROUNDWATER TEMPERATURE CONTOURS SHOWN ARE BASED ON DATA FROM MONITORING (GWM) WELLS IN WHICH THE GROUNDWATER LEVEL WAS ABOVE THE BOTTOM OF THE WELL SCREEN. GROUNDWATER WAS BELOW THE BOTTOM OF THE WELL SCREENS FOR GWM-3, GWM-4, AND GWM-5; TEMPERATURES SHOWN FOR THESE WELLS ARE BASED ON THE AVERAGE OF WELLS GWM-6 AND GWM-7.

IMAGERY SOURCE: GOOGLE EARTH (2015)



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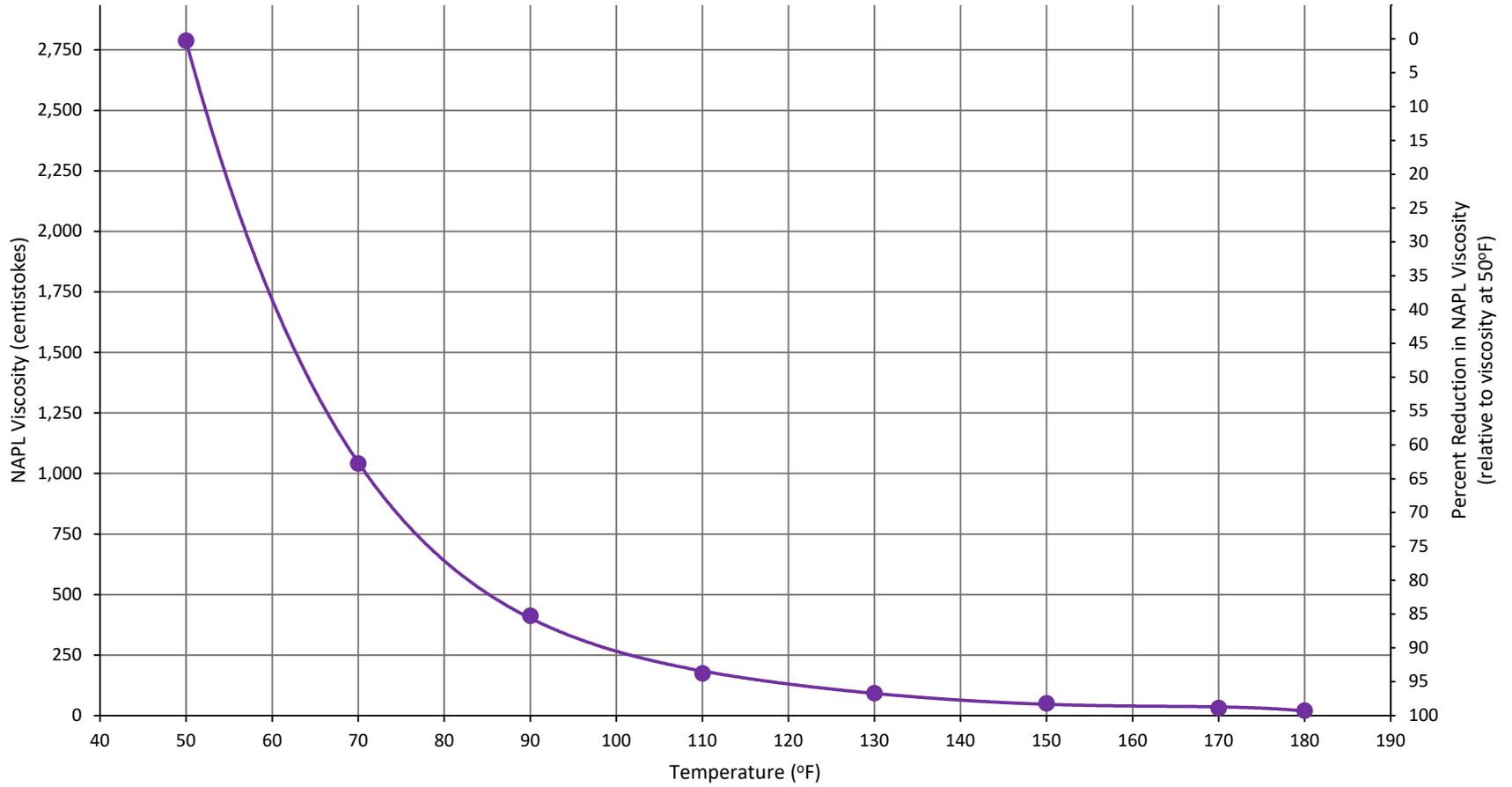
Date: 1/23/2018

Document Path: Q:\Projects\683 BNSF\057 HWF\_CONSTRUCTION\HWF 2017\FIGURE 15\_HWFTemp\_SEPT17.mxd

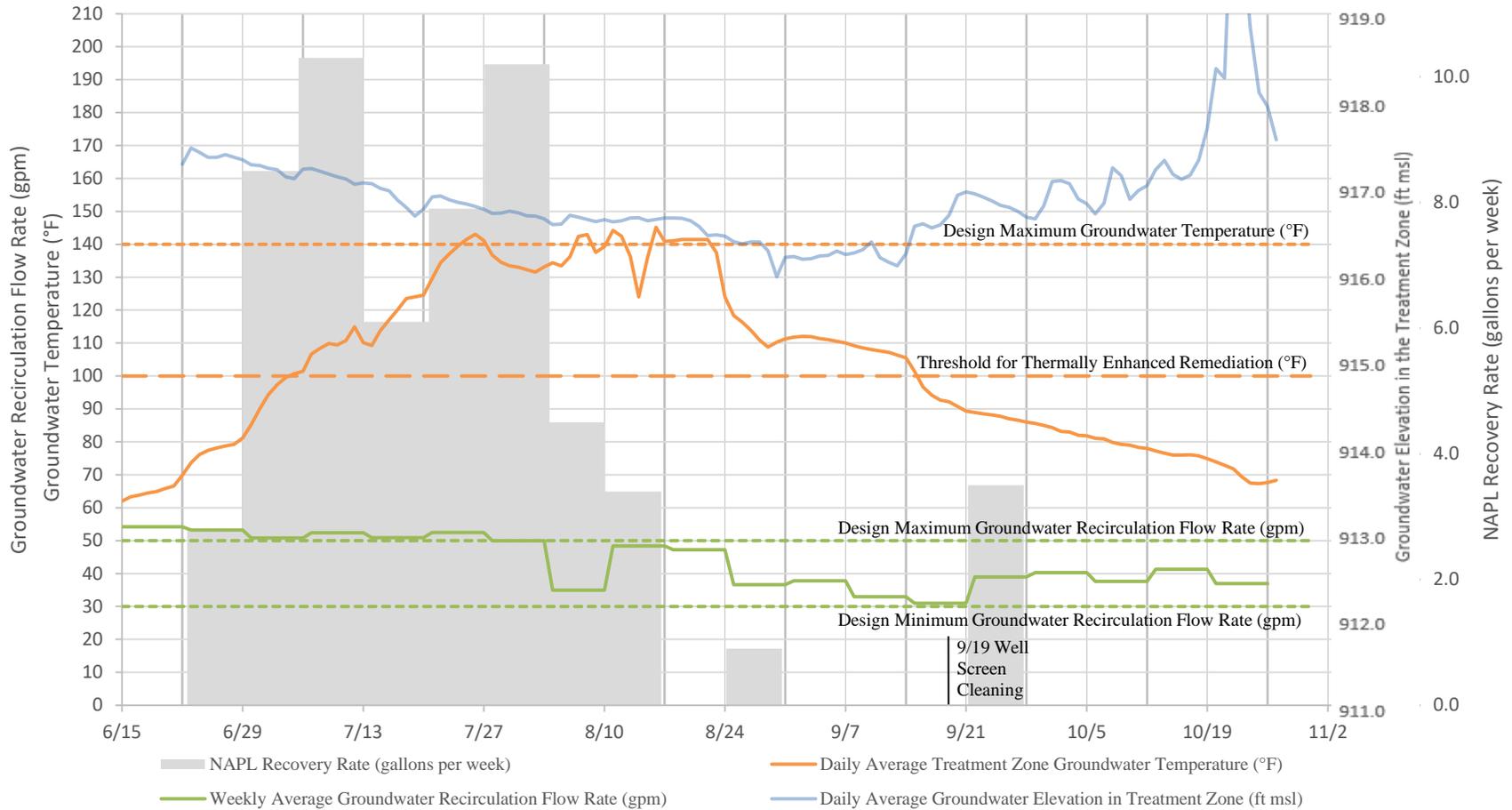
Disc Reference:

**FIGURE 15**  
SEPTEMBER 22, 2017 GROUNDWATER TEMPERATURES  
2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
SKYKOMISH SCHOOL  
BNSF FORMER MAINTENANCE AND FUELING FACILITY  
SKYKOMISH, WASHINGTON  
FARALLON PN: 683-067

**Figure 16**  
**NAPL Viscosity vs. Temperature**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**



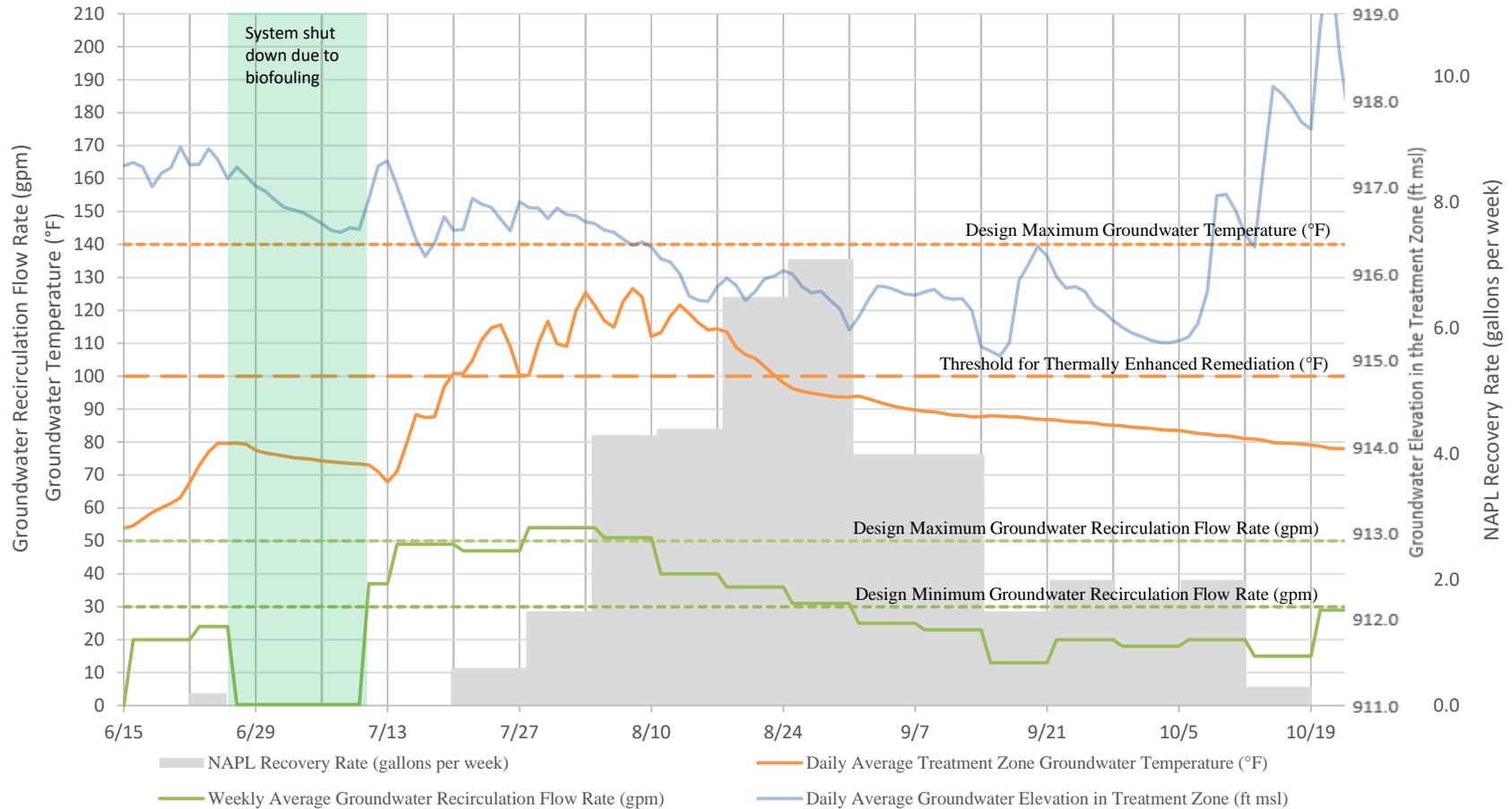
**Figure 17**  
**2017 NAPL Recovery Rates and Groundwater Temperatures, Flow Rates, and Elevations**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**



**NOTES:**

Average treatment zone groundwater temperature is based on data from wells GWM-6 and GWM-7.  
°F = degrees Fahrenheit  
gpm = gallons per minute  
NAPL= nonaqueous-phase liquid

**Figure 18**  
**2016 NAPL Recovery Rates and Groundwater Temperatures, Flow Rates, and Elevations**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**



**NOTES:**

The hot water flushing system was shut down from June 25 through July 10, 2016 due to biofouling of the granular activated carbon vessels.

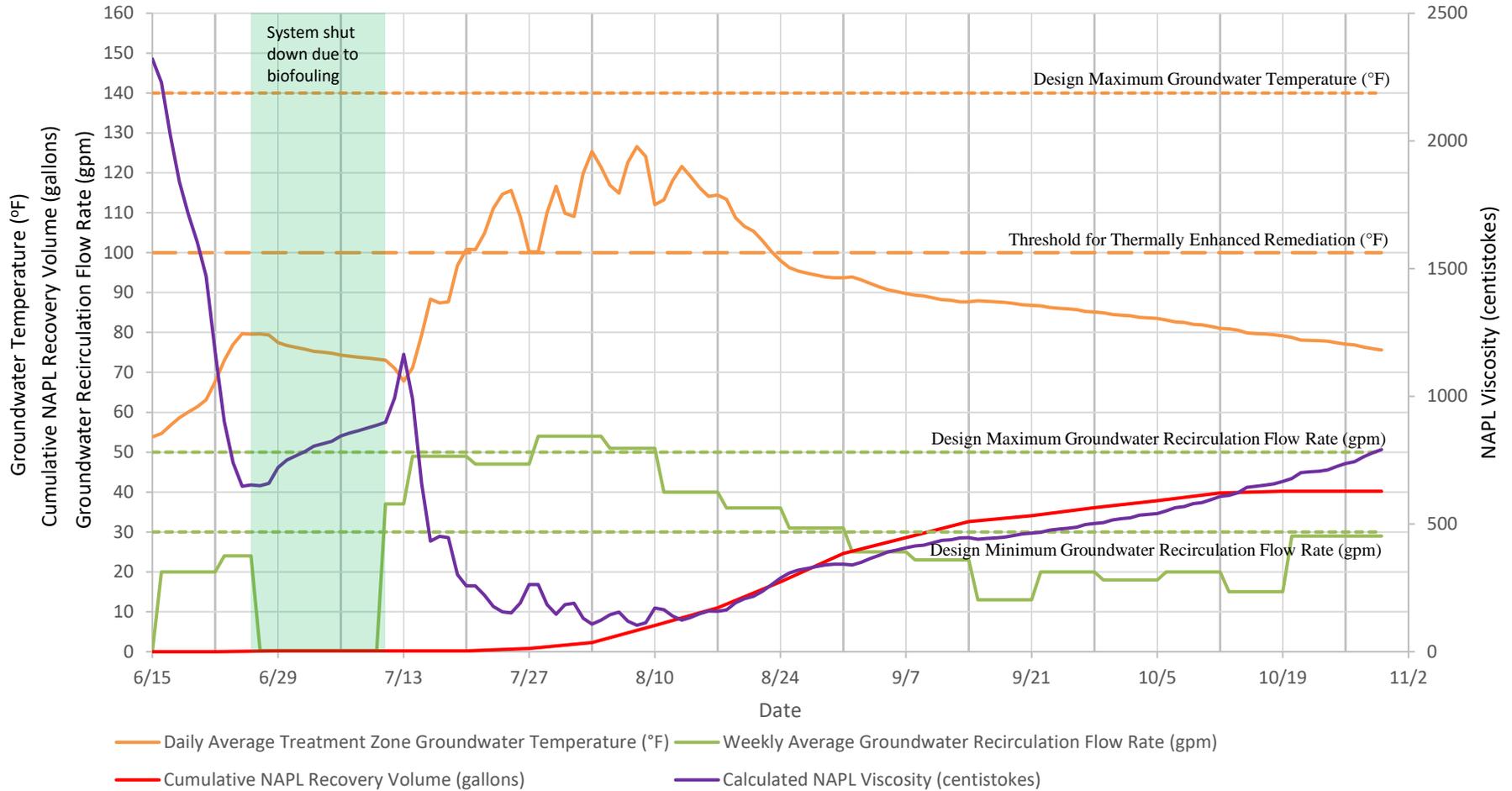
Average treatment zone groundwater temperature is based on data from wells GWM-6, GWM-7, and GWM-8.

°F = degrees Fahrenheit

gpm = gallons per minute

NAPL= nonaqueous-phase liquid

**Figure 19**  
**2016 Cumulative NAPL Recovery Volumes, NAPL Viscosities, and Groundwater Temperatures and Flow Rates**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**



**NOTES:**

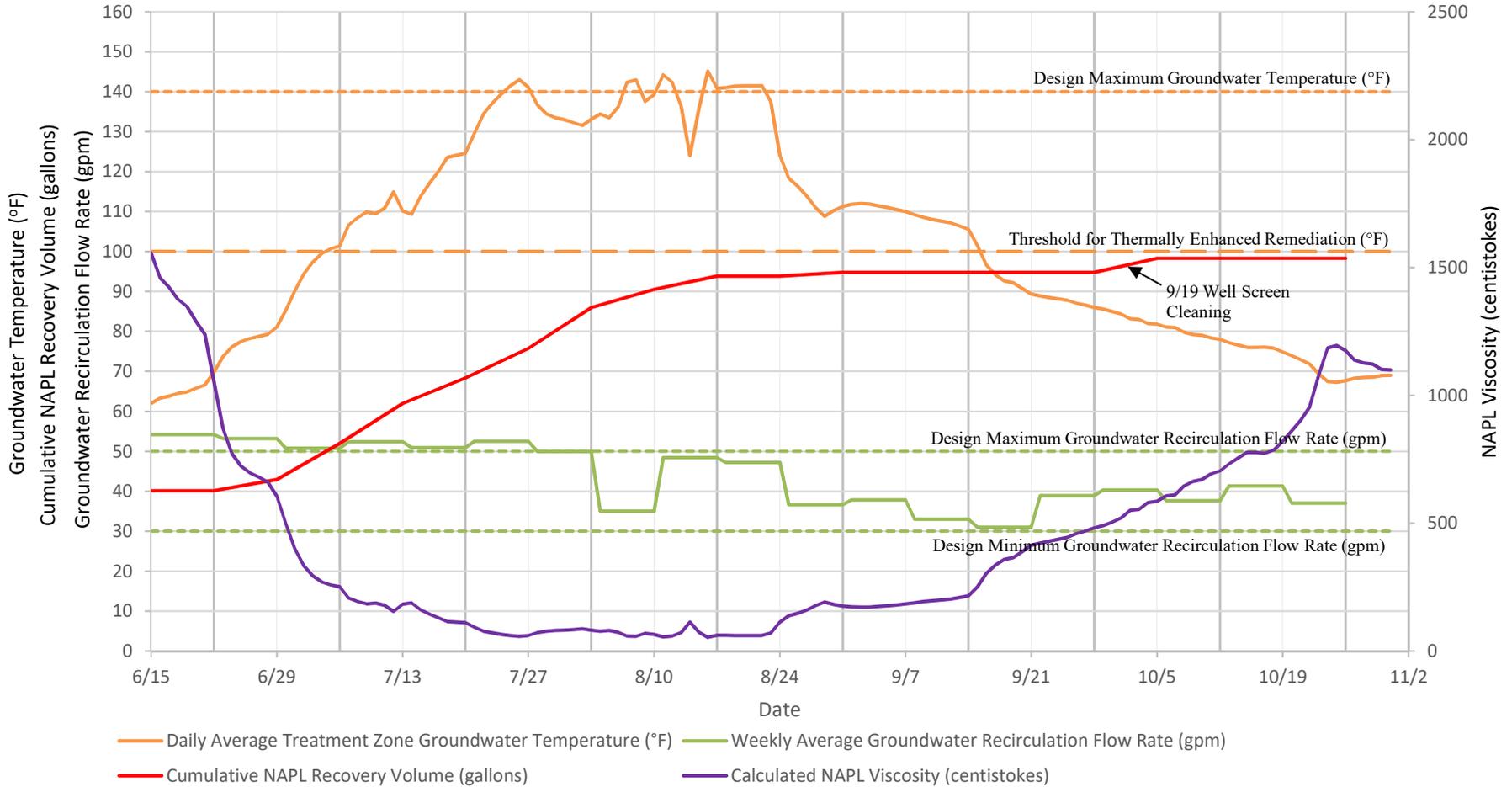
Average treatment zone groundwater temperature is based on data from wells GWM-6 and GWM-7.

°F = degrees Fahrenheit

gpm = gallons per minute

NAPL= nonaqueous-phase liquid

**Figure 20**  
**2017 Cumulative NAPL Recovery Volumes, NAPL Viscosities, and Groundwater Temperatures and Flow Rates**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**



**NOTES:**

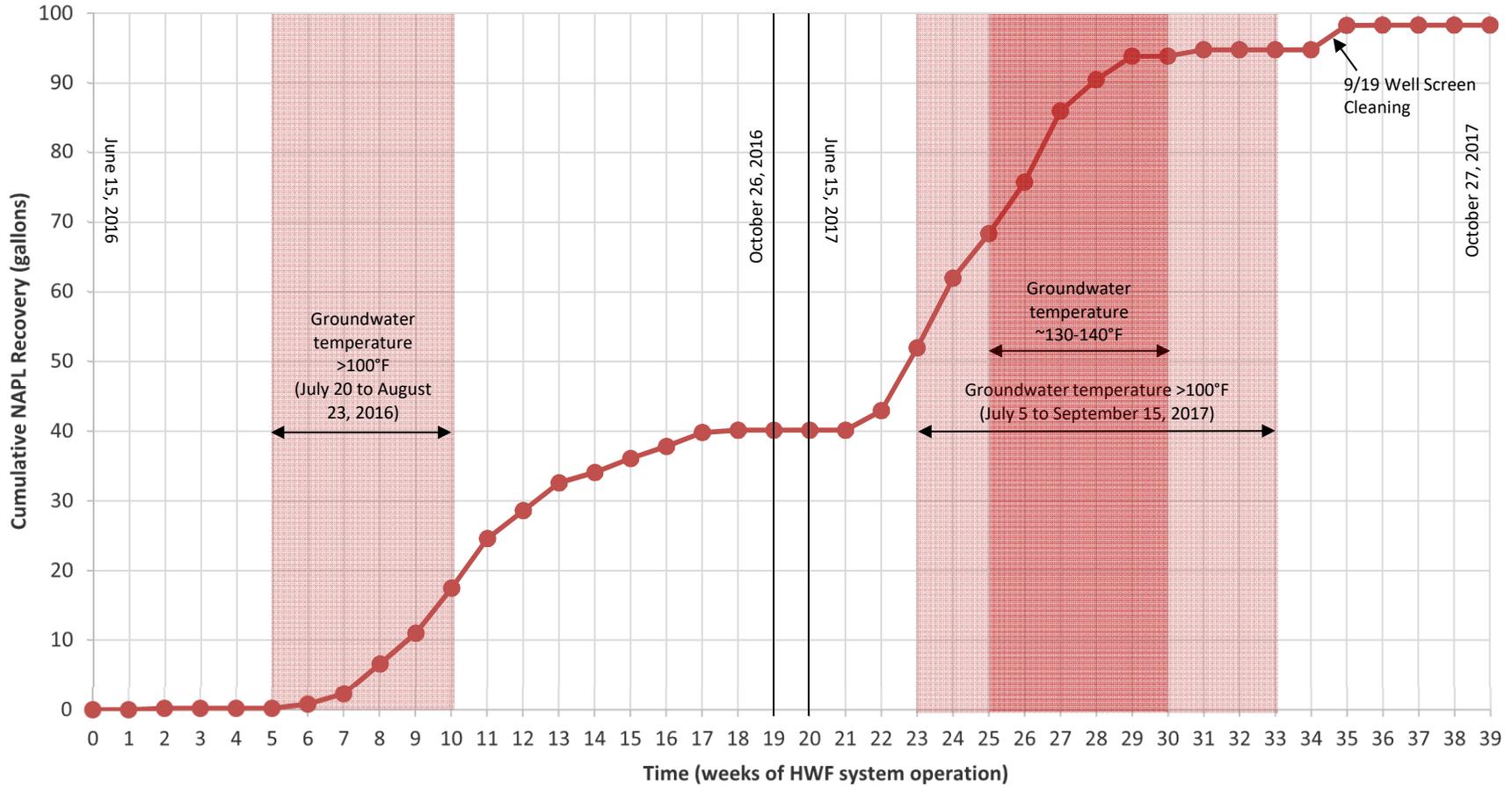
Average treatment zone groundwater temperature is based on data from wells GWM-6 and GWM-7.

°F = degrees Fahrenheit

gpm = gallons per minute

NAPL= nonaqueous-phase liquid

**Figure 21**  
**2016-2017 Cumulative NAPL Recovery**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**



**NOTES:**

- HWF = hot water flushing
- NAPL = nonaqueous-phase liquid
- °F = degrees Fahrenheit

## **TABLES**

### **2017 HOT WATER FLUSHING REMEDIATION PERFORMANCE REPORT**

**Skykomish School  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington**

**Farallon PN: 683-067**

**Table 1  
Design Quality Objectives from 2011 Design Report  
2017 Hot Water Flushing Remediation Performance Report  
Skykomish School  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington  
Farallon PN: 683-067**

| Requirements          |  | Overall Remedy  |  | Major Subsystems  |   |   |
|-----------------------|--|---|--|---|---|---|
| Design Requirements   | Definition   | Overall Subsurface Treatment  | Groundwater Recirculation and NAPL Recovery  | Subsurface Heating  | SVE/Subslab Depressurization  | Subsurface Sheet Pile Barrier   |
| Functionality         | The overall purpose of the portion of the system.  | Reduce the amount of petroleum beneath the School to the extent technically possible, with the goal of removing separate-phase mobile or volatile liquid petroleum components or NAPL.  | Provide gradient toward the eastern side of the School for NAPL recovery along Sixth Street and at southeastern and northeastern corners of School building.   | Provide subsurface heating to reduce NAPL viscosity, reduce NAPL residual saturation, and enhance removal of separate-phase mobile petroleum and NAPL.  | Remove volatile petroleum constituents and prevent vapor intrusion into occupied space or outdoors by maintaining a negative soil gas pressure in the subsurface and using vapor barriers as required. Provide mechanism for removal of heat from directly beneath building slab. | Provide hydraulic control and prevent migration of contaminated groundwater or NAPL.  |
| Reliability           | The ability of a system or component to perform its required functions under stated conditions for a specified period of time. | Reliability provided by aggressive technology approach (hot water) to achieve functional requirements within project time frames. Consideration of system components will include an expected operational duration of 3 to 5 years. | Conservative design to achieve a high level of reliability.  | Conservative design to achieve a high level of reliability.   | Conservative design to achieve a high level of reliability. Backup power required.  | Conservative design to achieve a high level of reliability by sealing sheet pile joints and keying into low-permeable material at the toe of the sheet piles. |
| Performance           | Stated operational goals.  | Treatment area footprint consists of School building plus 20 feet. Vertical interval of treatment is focused on impacted NAPL and smear zones. Achieve heating goals within summer-only operational approach.                       | 50 gpm flow throughput capability includes factor of safety on flow rates to account for subsurface variability. Leak testing with zero-tolerance for leaks. Separate groundwater and NAPL recovery to increase NAPL removal efficiency and minimize groundwater treatment requirements. | Target maximum 140°F average temperature in target treatment zone. For summer treatment approach, reach target temperature within each summer operational period. Temperatures can be reduced by injection of cold water, below 75°F, to prevent potential for heat impacts outside treatment zone. | SVE system sized to 500 SCFM, including factor of safety. Must handle extraction of potential soil gases. Provide measurable soil vacuum beneath slab floor to achieve a negative pressure below the floor slab.  | Toe of barrier will be keyed into the low-permeable silt layer, and the joints of the sheet pile will be sealed to prevent leakage.                           |
| Safety/Security       | Safety considerations for authorized workers and the general public.   | Limit system component access to authorized personnel, and ensure that training and protective measures are in place.   | Specified for system components.   | Specified for system components.  | Specified for system components.  | Safety/security buffer zone will be required during installation and removal of sheet pile.   |
| Environmental         | Requirements related to potential impacts to areas, objects, and people outside the treatment zone.                            | Acceptable temperature, vapor, and sound impacts on School and surrounding areas.   | Prevent groundwater mounding to level of School slab or ground surface.  | Exterior surface of system components exposed to non-project personnel limited to 100°F.  | Meet vapor discharge requirements of 1,346 µg/m <sup>3</sup> APH at perimeter of equipment compound. Provide acceptable sound levels. Cap unpaved (grassy) areas outside School within containment. Cap crawl space areas in building exposed to soil.                            | Barrier to allow for utility crossing.  |
| Operations Monitoring | Measurements needed to verify performance with respect to design.  | Measure NAPL and vapor recovery.  | Measure water levels, drawdown and mounding, and NAPL recovery.  | Measure subsurface temperatures.  | Soil vacuum monitoring, SVE off-gas monitoring.   | Piezometers to be installed for monitoring of water levels on either side of the barrier to evaluate water balance and flow hydraulics.                       |

NOTES:  
°F = degrees Fahrenheit  
APH = air-phase petroleum hydrocarbons  
gpm = gallons per minute  
µg/m<sup>3</sup> = micrograms per cubic meter

NAPL = nonaqueous-phase liquid  
SCFM = standard cubic feet per minute  
SVE = soil vapor extraction

**Table 2**  
**2017 Operational Milestones/Events**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| <b>Date</b> | <b>Milestone/Event</b>   | <b>Description</b>  |
|-------------|--|---|
| 4/4/2017    | Recovery Well Cleaning   | Cleaned all recovery wells using a combination of chemical and physical methods.  |
| 5/22/2017   | System Dewinterization   | Treatment system equipment cleaning and installation in vaults.   |
| 6/1/2017    | Carbon Changeout   | As part of dewinterization and system commissioning, GAC vessels were charged with fresh carbon.  |
| 6/8/2017    | System Start-up and Commissioning; Initiate Ambient Water Flushing | Treatment system dewinterization complete; performance testing initiated and flow balancing performed in ambient water flushing mode.     |
| 6/15/2017   | Initiate Hot Water Injection and SVE                               | Began hot water injection and SVE system operation.   |
| 7/6/2017    | Carbon Changeout   | Temporary system shut-down (<8 hours) to replace carbon in GAC vessels.   |
| 7/20/2017   | Carbon Changeout   | Temporary system shut-down (<8 hours) to replace carbon in GAC vessels.   |
| 7/15/2017   | Equipment Modification   | Installed oil-absorbing bag filters in place of particulate-only bag filters.   |
| 8/3/2017    | Temporary Shut-Down  | Temporary system shut-down (48 hours) due to electrical controls malfunction; repaired system controls; SVE system operated continuously. |
| 8/3/2017    | Equipment Modification   | Added an organoclay treatment vessel upstream of the GAC vessels.   |
| 8/23/2017   | Return to Ambient Water Flushing                                   | Boiler shut down; ambient water flushing initiated.   |
| 9/19/2017   | Recovery Well Cleaning   | Cleaned recovery wells RW-1, RW-5, and RW-9 using a combination of chemical and physical methods.   |
| 10/4/2017   | Carbon Changeout   | Temporary system shut-down (<8 hours) to replace carbon in GAC vessels.   |
| 10/6/2017   | Temporary Shut-Down  | Temporary system shut-down (24 hours) due to power failure.   |
| 10/27/2017  | Begin Seasonal Shut-Down   | Shut down and winterize treatment system; clean up and secure site.   |

**NOTES:**

GAC = granular activated carbon

SVE = soil vapor extraction

**Table 3**  
**Compliance Monitoring Matrix**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Monitoring Parameter                     | Operational Mode                          |   |   |   |   |   |   |  |    |
|--|---|---|---|---|---|---|---|--|----|
|  | HWF                                       |   | AWF/CWF (School Not in Session)           |   | AWF/CWF (School in Session)               |   | Winter Shutdown                           |  |    |
|  | Events                                    | Action Levels   | Events                                    | Action Levels   | Events                                    | Action Levels   | Events                                    | Action Levels                              |    |
| <b>AIR-PHASE PETROLEUM HYDROCARBONS</b>  |   |   |   |   |   |   |   |  |    |
| <b>Basement</b>                          | 8-hour weekly (1 location)                | Ref Section 3.2 ANO Plan  | 8-hour weekly (3 locations)               | Ref Section 3.2 ANO Plan  | 8-hour monthly (3 locations)              | Ref Section 3.2 ANO Plan  | 8-hour monthly (3 locations)              | Ref Section 3.2 ANO Plan                   |    |
| <b>First Floor</b>                       | 8-hour weekly (1 location)                | Ref Section 3.2 ANO Plan  | 8-hour weekly (2 locations)               | Ref Section 3.2 ANO Plan  | 8-hour monthly (2 locations)              | Ref Section 3.2 ANO Plan  | 8-hour monthly (2 locations)              | Ref Section 3.2 ANO Plan                   |    |
| <b>Second Floor</b>                      | 8-hour weekly (1 location)                | Ref Section 3.2 ANO Plan  | 8-hour weekly (1 location)                | Ref Section 3.2 ANO Plan  | 8-hour monthly (1 location)               | Ref Section 3.2 ANO Plan  | 8-hour monthly (1 location)               | Ref Section 3.2 ANO Plan                   |    |
| <b>VOLATILE ORGANIC CONCENTRATIONS</b>   |   |   |   |   |   |   |   |  |    |
| <b>Basement and First Floor</b>          | Continuously, Upload Weekly (3 locations) | >5 ppm for 5 min =R,I(4)  | Continuously, Upload Weekly (3 locations) | >5 ppm for 5 min =R,I(4)  | Continuously, Upload Weekly (3 locations) | >5 ppm for 5 min =R,I(4)  | Continuously, Upload Weekly (3 locations) | >5 ppm for 5 min =R,I(4)                   |    |
|  |   | >10 ppm for 5 min at 2 locations =R,E,I(4)  |   | >10 ppm for 5 min at 2 locations =R,E,I(4)  |   | >10 ppm for 5 min at 2 locations =R,E,I(4)                                |   | >10 ppm for 5 min at 2 locations =R,E,I(4) |    |
| <b>INTERIOR FLOOR TEMPERATURE</b>        |   |   |   |   |   |   |   |  |    |
| <b>Basement</b>                          | Weekly, Occupied Areas                    | >80°F (84°F max.) =A,M  | Weekly, Occupied Areas                    | >80°F (84°F max.) =A,M  | Weekly, Occupied Areas                    | >80°F (84°F max.) =A,M  | None proposed                             | None proposed                              | NA |
| <b>INDOOR AIR (ROOM) TEMPERATURE</b>     |   |   |   |   |   |   |   |  |    |
| <b>Basement</b>                          | Daily, Occupied Rooms (Upload Weekly)     | >10°F above ambient outdoor temperature =A,M  | Daily, Occupied Rooms (Upload Weekly)     | >10°F above ambient outdoor temperature =A,M  | Daily, Occupied Rooms (Upload Weekly)     | >78.5°F @ 60% RH =A,M<br>>80.0°F @ 30% RH                                 | None proposed                             | None proposed                              | NA |
| <b>NOISE</b>                             |   |   |   |   |   |   |   |  |    |
| <b>Outside - At Introduced Equipment</b> | Continuous first week of operation        | >65 dB(A) @ nearest occupied property =M  | First week of operation                   | >65 dB(A) @ nearest occupied property =M  | First week of operation                   | >65 dB(A) @ nearest occ. property =M                                      | None proposed                             | None proposed                              | NA |
| <b>Inside - Noise Map</b>                | Initial Survey ANO Plan Section 2.3.2     | >40 dB(A) or 70 dB windows closed.<br>>45 dB(A) or 70 dB windows open.<br>(If school occupied) =M | Initial Survey ANO Plan Section 2.3.2     | >40 dB(A) or 70 dB windows closed.<br>>45 dB(A) or 70 dB windows open.<br>(If school occupied) =M | Initial Survey ANO Plan Section 2.3.2     | >40 dB(A) or 70 dB windows closed.<br>>45 dB(A) or 70 dB windows open. =M | None proposed                             | None proposed                              | NA |
| <b>PROCESS WATER</b>                     |   |   |   |   |   |   |   |  |    |
| <b>Lag GAC Influent</b>                  | Weekly                                    | Any Detection TPH =C  | Weekly                                    | Any Detection TPH =C  | Weekly                                    | Any Detection TPH =C  | None proposed                             | None proposed                              | NA |
| <b>Lag GAC Effluent</b>                  | Weekly                                    | >477 µg/l TPH =SD,C   | Weekly                                    | >477 µg/l TPH =SD,C   | Weekly                                    | >477 µg/l TPH =SD,C   | None proposed                             | None proposed                              | NA |
| <b>SVE OPERATION</b>                     |   |   |   |   |   |   |   |  |    |
| <b>Subslab Pressure Differential</b>     | Continuously (Upload Weekly)              | >0.025 IWC vacuum =A,M  | Continuously (Upload Weekly)              | >0.025 IWC vacuum =A,M  | Continuously (Upload Weekly)              | >0.025 IWC vacuum =A,M  | None proposed                             | None proposed                              | NA |

**Table 3**  
**Compliance Monitoring Matrix**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Monitoring Parameter | Operational Mode                       |   |  |                                      |  |   |  |                                      |   |  |   |
|----------------------|--|---|--|--------------------------------------|--|---|--|--------------------------------------|---|--|---|
|                      | HWF                                    |   | AWF/CWF (School Not in Session)        |                                      | AWF/CWF (School in Session)            |   | Winter Shutdown                        |                                      |   |  |   |
|                      | Events                                 | Action Levels                               | Events                                 | Action Levels                        | Events                                 | Action Levels                               | Events                                 | Action Levels                        |   |  |   |
| <b>ODOR</b>          |  |   |  |                                      |  |   |  |                                      |   |  |   |
| <b>Inside School</b> | Continuous monitoring by all occupants | Level 1 (barely detectable) =R,I(24)        | Continuous monitoring by all occupants | Level 1 (barely detectable) =R,I(24) | Continuous monitoring by all occupants | Level 1 (barely detectable) =R,I(24)        | Continuous monitoring by all occupants | Level 1 (barely detectable) =R,I(24) |   |  |   |
|                      |  | Level 2 (distinct and definite) =R,I        |  |                                      |  | Level 2 (distinct and definite) =R,I        |  |                                      | Level 2 (distinct and definite) =R,I        |  | Level 2 (distinct and definite) =R,I        |
|                      |  | Level 3 (strong, areas avoided) =R,E,I      |  |                                      |  | Level 3 (strong, areas avoided) =R,E,I      |  |                                      | Level 3 (strong, areas avoided) =R,E,I      |  | Level 3 (strong, areas avoided) =R,E,I      |
|                      |  | Level 4 (very strong, areas avoided) =R,E,I |  |                                      |  | Level 4 (very strong, areas avoided) =R,E,I |  |                                      | Level 4 (very strong, areas avoided) =R,E,I |  | Level 4 (very strong, areas avoided) =R,E,I |

**NOTES:**

°F = degrees Fahrenheit  
A = HWF/SVE system adjustment  
ANO Plan = Hot Water Flushing Air, Noise, and Odor Monitoring Plan, 2015 to 2019 dated February 10, 2015, prepared by EMB Consulting.  
AWF = ambient water flushing  
C = schedule carbon changeout  
CWF = cold and ambient water flushing period  
dB = decibels  
dB(A) = decibels A  
E = evacuate school  
GAC = granular activated carbon  
HWF = hot water flushing  
I = investigate source  
I(X) = investigate source (within X hours of alarm)  
IWC = inches of water column  
M = HWF and/or school modification  
max. = maximum  
µg/l = micrograms per liter  
min = minute  
NA = not applicable  
ppm = parts per million  
R = report to Washington State Department of Ecology and/or Skykomish School District  
RH = relative humidity  
SD = shut down system  
SVE = soil vapor extraction  
TPH = total petroleum hydrocarbons

**Table 4**  
**Basement Floor Temperatures**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date      | FLOOR TEMPERATURE |                        |                        |                       |                  | Average of Five Locations<br>Temperature (°F) |
|-----------|-------------------|------------------------|------------------------|-----------------------|------------------|---|
|           | Cafeteria Central | Basement Hallway North | Basement Hallway South | Basement Hallway West | Wood Shop        |   |
|           | Temperature (°F)  | Temperature (°F)       | Temperature (°F)       | Temperature (°F)      | Temperature (°F) |   |
| 6/15/2017 | 79.1              | 78.2                   | 71.6                   | 72.5                  | 77.0             | 75.7  |
| 6/16/2017 | 81.2              | 80.9                   | 72.8                   | 71.6                  | 72.5             | 75.8  |
| 6/19/2017 | 70.1              | 68.2                   | 69.1                   | 68.9                  | 71.6             | 69.6  |
| 6/20/2017 | 72.1              | 70.3                   | 70.0                   | 70.8                  | 72.1             | 71.1  |
| 6/23/2017 | 74.0              | 73.0                   | 70.0                   | 72.5                  | 73.0             | 72.5  |
| 6/26/2017 | 79.0              | 72.0                   | 71.0                   | 72.0                  | 72.0             | 73.2  |
| 6/27/2017 | 80.0              | 80.0                   | 71.8                   | 72.0                  | 72.0             | 75.2  |
| 6/28/2017 | 76.4              | 75.9                   | 69.8                   | 71.9                  | 74.2             | 73.6  |
| 6/29/2017 | 80.1              | 79.7                   | 72.0                   | 76.0                  | 76.2             | 76.8  |
| 6/30/2017 | 79.7              | 78.2                   | 79.1                   | 71.3                  | 77.0             | 77.1  |
| 7/3/2017  | 80.1              | 78.2                   | 79.7                   | 74.5                  | 78.1             | 78.1  |
| 7/5/2017  | 84.0              | 79.0                   | 79.0                   | 71.9                  | 73.0             | 77.4  |
| 7/10/2017 | <b>86.3</b>       | 82.1                   | 80.0                   | 73.7                  | 77.0             | 79.8  |
| 7/13/2017 | NM                | 80.0                   | 77.9                   | 73.0                  | 75.5             | 76.6  |
| 7/15/2017 | 83.3              | 83.9                   | 80.0                   | 76.4                  | 79.1             | 80.5  |
| 7/17/2017 | 80.6              | 83.3                   | 81.3                   | 75.5                  | 70.1             | 78.2  |
| 7/18/2017 | 83.0              | 81.0                   | 81.0                   | 75.5                  | 79.1             | 79.9  |
| 7/19/2017 | 81.5              | 82.7                   | 81.0                   | 76.1                  | 77.9             | 79.8  |
| 7/20/2017 | <b>86.0</b>       | 82.7                   | 81.2                   | 73.7                  | 77.9             | 80.3  |
| 7/21/2017 | <b>85.0</b>       | 83.7                   | 81.0                   | 76.2                  | 79.0             | 81.0  |
| 7/24/2017 | <b>85.5</b>       | <b>85.4</b>            | 80.1                   | 77.9                  | 78.8             | 81.5  |
| 7/25/2017 | <b>84.5</b>       | 83.3                   | 81.2                   | 77.9                  | 80.6             | 81.5  |
| 7/26/2017 | <b>85.3</b>       | <b>84.1</b>            | 81.7                   | 77.7                  | 80.1             | 81.8  |
| 7/28/2017 | <b>86.0</b>       | 83.6                   | 81.5                   | 79.1                  | 79.1             | 81.9  |
| 7/31/2017 | <b>85.2</b>       | 83.1                   | 81.0                   | 77.4                  | 79.0             | 81.1  |
| 8/1/2017  | <b>84.5</b>       | 82.7                   | 81.1                   | 77.3                  | 78.8             | 80.9  |
| 8/7/2017  | <b>85.4</b>       | <b>86.9</b>            | 83.3                   | 80.6                  | 82.4             | 83.7  |
| 8/8/2017  | <b>85.0</b>       | 83.7                   | 83.6                   | 79.2                  | 82.1             | 82.7  |
| 8/9/2017  | <b>85.8</b>       | 81.8                   | 83.6                   | 77.0                  | 82.0             | 82.0  |
| 8/10/2017 | <b>85.1</b>       | <b>84.2</b>            | <b>84.3</b>            | 79.6                  | 82.1             | 83.1  |
| 8/11/2017 | <b>84.9</b>       | 83.7                   | 84.0                   | 78.7                  | 83.2             | 82.9  |
| 8/14/2017 | 79.9              | 77.9                   | 80.6                   | 75.2                  | 81.5             | 79.0  |
| 8/15/2017 | 83.6              | 81.5                   | 83.9                   | 74.8                  | 80.9             | 80.9  |
| 8/16/2017 | 77.3              | 80.0                   | 80.9                   | 74.9                  | 77.9             | 78.2  |
| 8/17/2017 | 81.5              | 81.8                   | 83.0                   | 75.8                  | 79.1             | 80.2  |
| 8/18/2017 | 78.2              | 81.1                   | 79.1                   | 77.3                  | 76.1             | 78.4  |
| 8/21/2017 | 80.9              | 82.4                   | 82.3                   | 78.2                  | 81.5             | 81.1  |
| 8/22/2017 | 79.7              | 83.0                   | 80.0                   | 77.3                  | 82.4             | 80.5  |
| 8/23/2017 | 83.3              | <b>86.0</b>            | 83.6                   | 78.8                  | 82.4             | 82.8  |
| 8/28/2017 | 77.6              | 83.3                   | 80.4                   | 77.8                  | 79.0             | 79.6  |
| 8/29/2017 | 77.9              | 83.0                   | 77.9                   | 78.8                  | 77.0             | 78.9  |
| 8/30/2017 | 80.9              | 83.0                   | 83.0                   | 81.5                  | 83.6             | 82.4  |
| 8/31/2017 | 80.6              | 81.2                   | 80.0                   | 80.0                  | 79.7             | 80.3  |
| 9/1/2017  | 80.0              | 80.8                   | 80.1                   | 79.9                  | 80.3             | 80.2  |
| 9/7/2017  | 80.9              | <b>84.4</b>            | 83.0                   | <b>86.9</b>           | 83.0             | 83.6  |
| 9/11/2017 | 73.8              | 77.9                   | 78.8                   | 79.7                  | 79.0             | 77.8  |
| 9/13/2017 | 79.7              | 80.0                   | 80.9                   | 80.6                  | 81.0             | 80.4  |
| 9/20/2017 | 77.3              | 78.2                   | 77.8                   | 79.5                  | 79.9             | 78.5  |
| 9/25/2017 | 76.7              | 77.9                   | 77.9                   | 77.9                  | 77.9             | 77.7  |
| 9/27/2017 | 75.8              | 76.1                   | 76.1                   | 76.4                  | 71.1             | 75.1  |
| 9/29/2017 | 80.0              | 79.7                   | 79.1                   | 80.0                  | 78.2             | 79.4  |
| 10/4/2017 | 78.2              | 76.1                   | 76.1                   | 80.0                  | 76.1             | 77.3  |

**Table 4**  
**Basement Floor Temperatures**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date                                     | FLOOR TEMPERATURE |                        |                        |                       |                  | Average of Five Locations<br>Temperature (°F) |
|--|-------------------|------------------------|------------------------|-----------------------|------------------|---|
|  | Cafeteria Central | Basement Hallway North | Basement Hallway South | Basement Hallway West | Wood Shop        |   |
|  | Temperature (°F)  | Temperature (°F)       | Temperature (°F)       | Temperature (°F)      | Temperature (°F) |   |
| 10/10/2017                               | 74.9              | 73.1                   | 72.8                   | 78.2                  | 71.3             | 74.1  |
| 10/12/2017                               | 72.5              | 70.7                   | 70.7                   | 74.3                  | 70.4             | 71.7  |
| 10/17/2017                               | 68.0              | 68.2                   | 68.0                   | 70.7                  | 69.2             | 68.8  |
| 10/19/2017                               | 71.3              | 71.3                   | 72.5                   | 72.5                  | 72.5             | 72.0  |
| 10/25/2017                               | 67.4              | 66.2                   | 66.2                   | 70.4                  | 65.3             | 67.1  |
| 10/27/2017                               | 71.0              | 69.8                   | 69.2                   | 71.0                  | 70.4             | 70.3  |
| <b>Project Action Level <sup>1</sup></b> | <b>84</b>         | <b>84</b>              | <b>84</b>              | <b>84</b>             | <b>84</b>        | <b>84</b>                                     |

NOTES:

Results in **bold** denote measured values exceed the project action level.

°F = degrees Fahrenheit

Data were collected manually using a General IRT-206 Infrared Thermometer. Floor temperatures were measured at locations above the system piping corridor to monitor worst-case conditions unless otherwise noted.

NM = not measured

<sup>1</sup> Project action levels are defined in Addendum #3 to 2010 Compliance Monitoring Plan Update dated February 17, 2015 prepared by Farallon Consulting, L.L.C.

**Table 5**  
**Basement Indoor Air (Room) Temperatures**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date  | Location  |   |   |   |   |
|---|---|---|---|---|---|
|   | Cafeteria (B10) <sup>1</sup>                                |   | Southwest Hallway <sup>1</sup>                              |   | Outdoor Ambient<br>Maximum<br>Temperature (°F) <sup>2</sup> |
|   | Average<br>Temperature (°F)                                 | Maximum<br>Temperature (°F)                                 | Average<br>Temperature (°F)                                 | Maximum<br>Temperature (°F)                                 |   |
| 6/4/2017  | --  | --  | --  | --  | 66  |
| 6/5/2017  | --  | --  | --  | --  | 78  |
| 6/6/2017  | --  | --  | --  | --  | 93  |
| 6/7/2017  | --  | --  | --  | --  | 85  |
| 6/8/2017  | --  | --  | --  | --  | 65  |
| 6/9/2017  | --  | --  | --  | --  | 65  |
| 6/10/2017   | --  | --  | --  | --  | 64  |
| 6/11/2017   | --  | --  | --  | --  | 75  |
| 6/12/2017   | --  | --  | --  | --  | 57  |
| 6/13/2017   | --  | --  | --  | --  | 57  |
| 6/14/2017   | --  | --  | --  | --  | 69  |
| 6/15/2017   | --  | --  | 72.2  | 74.3  | 59  |
| 6/16/2017   | --  | --  | 71.6  | 72.7  | 68  |
| 6/17/2017   | --  | --  | 70.2  | 71.5  | 72  |
| 6/18/2017   | --  | --  | 69.3  | 69.6  | 68  |
| 6/19/2017   | --  | --  | 69.5  | 70.7  | 80  |
| 6/20/2017   | --  | --  | 70.1  | 70.9  | 72  |
| 6/21/2017   | --  | --  | 69.9  | 72.0  | 78  |
| 6/22/2017   | --  | --  | 70.5  | 72.8  | 82  |
| 6/23/2017   | --  | --  | 71.6  | 73.9  | 87  |
| 6/24/2017   | --  | --  | 73.2  | 75.7  | 97  |
| 6/25/2017   | --  | --  | 75.1  | 77.2  | 108   |
| 6/26/2017   | --  | --  | 77.6  | 80.1  | 80  |
| 6/27/2017   | --  | --  | 78.4  | 79.4  | 73  |
| 6/28/2017   | --  | --  | 77.2  | 78.6  | 68  |
| 6/29/2017   | --  | --  | 75.3  | 76.8  | 82  |
| 6/30/2017   | --  | --  | 74.7  | 77.2  | 93  |
| 7/1/2017  | --  | --  | 83.7  | 84.2  | 75  |
| 7/2/2017  | --  | --  | 82.6  | 83.8  | 83  |
| 7/3/2017  | --  | --  | 82.4  | 83.0  | 77  |
| 7/4/2017  | --  | --  | 82.6  | 83.4  | 79  |
| 7/5/2017  | --  | --  | 83.0  | 83.8  | 89  |
| 7/6/2017  | --  | --  | 81.8  | 83.0  | 88  |
| 7/7/2017  | --  | --  | 80.6  | 81.7  | 81  |
| 7/8/2017  | --  | --  | 78.4  | 80.4  | 84  |
| 7/9/2017  | --  | --  | 77.7  | 80.7  | 85  |
| 7/10/2017   | --  | --  | 81.4  | 82.7  | 78  |
| 7/11/2017   | --  | --  | 82.2  | 82.6  | 78  |
| 7/12/2017   | --  | --  | 80.1  | 82.3  | 82  |
| 7/13/2017   | --  | --  | 79.8  | 81.4  | 77  |
| 7/14/2017   | --  | --  | 80.1  | 81.7  | 83  |
| <b>Project Action Level<br/>(School not in session)<sup>3</sup></b>         | <b>&gt;10°F higher than<br/>outdoor ambient<br/>maximum</b> | <b>NA</b>   |
| <b>Project Maximum<br/>Action Level<br/>(School in session)<sup>3</sup></b> | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>NA</b>   |

**Table 5**  
**Basement Indoor Air (Room) Temperatures**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date  | Location  |   |   |   |   |
|---|---|---|---|---|---|
|   | Cafeteria (B10) <sup>1</sup>                                |   | Southwest Hallway <sup>1</sup>                              |   | Outdoor Ambient<br>Maximum<br>Temperature (°F) <sup>2</sup> |
|   | Average<br>Temperature (°F)                                 | Maximum<br>Temperature (°F)                                 | Average<br>Temperature (°F)                                 | Maximum<br>Temperature (°F)                                 |   |
| 7/15/2017   | --  | --  | 80.8  | 81.8  | 85  |
| 7/16/2017   | --  | --  | 80.8  | 82.1  | 77  |
| 7/17/2017   | --  | --  | 82.1  | 83.7  | 81  |
| 7/18/2017   | --  | --  | 83.5  | 84.2  | 86  |
| 7/19/2017   | --  | --  | 82.4  | 84.4  | 83  |
| 7/20/2017   | --  | --  | 82.2  | 84.3  | 79  |
| 7/21/2017   | --  | --  | 79.1  | 82.0  | 77  |
| 7/22/2017   | --  | --  | 77.7  | 80.5  | 89  |
| 7/23/2017   | --  | --  | 81.8  | 83.0  | 81  |
| 7/24/2017   | --  | --  | 83.8  | 84.7  | 85  |
| 7/25/2017   | --  | --  | 85.0  | 85.9  | 90  |
| 7/26/2017   | --  | --  | 82.8  | 85.7  | 89  |
| 7/27/2017   | --  | --  | 83.2  | 85.2  | 76  |
| 7/28/2017   | --  | --  | 83.0  | 85.5  | 82  |
| 7/29/2017   | --  | --  | 85.2  | 90.6  | 87  |
| 7/30/2017   | --  | --  | 81.0  | 85.7  | 84  |
| 7/31/2017   | --  | --  | 85.2  | 86.3  | 87  |
| 8/1/2017  | --  | --  | 85.1  | 86.4  | 91  |
| 8/2/2017  | --  | --  | 83.2  | 86.3  | 94  |
| 8/3/2017  | 85.6  | 86.8  | 81.4  | 84.9  | 97  |
| 8/4/2017  | 85.2  | 86.6  | 83.1  | 85.7  | 93  |
| 8/5/2017  | 85.4  | 86.3  | 83.3  | 85.8  | 86  |
| 8/6/2017  | 84.8  | 85.9  | 84.3  | 85.8  | 87  |
| 8/7/2017  | 83.3  | 85.5  | 84.4  | 85.4  | 89  |
| 8/8/2017  | 84.3  | 85.6  | 82.7  | 84.2  | 90  |
| 8/9/2017  | 84.5  | 85.7  | 76.2  | 81.1  | 92  |
| 8/10/2017   | 83.7  | 85.7  | 76.2  | 79.5  | 92  |
| 8/11/2017   | 84.3  | 85.5  | 75.6  | 78.9  | 87  |
| 8/12/2017   | 84.0  | 85.0  | 74.5  | 79.4  | 78  |
| 8/13/2017   | 82.3  | <b>83.4</b>   | 76.0  | 79.2  | 66  |
| 8/14/2017   | 78.0  | 81.1  | 78.1  | 80.1  | 79  |
| 8/15/2017   | 78.3  | 79.7  | 78.6  | 80.5  | 83  |
| 8/16/2017   | 77.2  | 79.6  | 77.2  | 80.5  | 83  |
| 8/17/2017   | 78.4  | 79.7  | 79.7  | 85.4  | 85  |
| 8/18/2017   | 77.4  | 79.7  | 77.5  | 81.8  | 81  |
| 8/19/2017   | 79.0  | 79.7  | 72.7  | 81.8  | 81  |
| 8/20/2017   | 79.4  | 80.1  | 73.0  | 78.8  | 80  |
| 8/21/2017   | 77.4  | 80.0  | 79.1  | 82.0  | 86  |
| 8/22/2017   | 77.9  | 81.0  | 81.4  | 83.6  | 91  |
| 8/23/2017   | 79.7  | 82.7  | 82.1  | 87.1  | 86  |
| 8/24/2017   | 78.7  | <b>83</b>   | 80.9  | <b>84.6</b>   | 71  |
| <b>Project Action Level<br/>(School not in session)<sup>3</sup></b>         | <b>&gt;10°F higher than<br/>outdoor ambient<br/>maximum</b> | <b>NA</b>   |
| <b>Project Maximum<br/>Action Level<br/>(School in session)<sup>3</sup></b> | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>NA</b>   |

**Table 5**  
**Basement Indoor Air (Room) Temperatures**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date  | Location  |   |   |   |   |
|---|---|---|---|---|---|
|   | Cafeteria (B10) <sup>1</sup>                        |   | Southwest Hallway <sup>1</sup>                      |   | Outdoor Ambient Maximum Temperature (°F) <sup>2</sup> |
|   | Average Temperature (°F)                            | Maximum Temperature (°F)                            | Average Temperature (°F)                            | Maximum Temperature (°F)                            |   |
| 8/25/2017   | 78.3  | 79.6  | 82.1  | 83.4  | 77  |
| 8/26/2017   | 80.4  | 81.7  | 82.7  | 84.8  | 86  |
| 8/27/2017   | 82.2  | 83.7  | 83.6  | 85.2  | 91  |
| 8/28/2017   | 81.0  | 83.7  | 84.8  | 86.3  | 94  |
| 8/29/2017   | 81.5  | 84.4  | 85.8  | 86.6  | 93  |
| 8/30/2017   | <b>81.0</b>   | <b>84.1</b>   | <b>86.0</b>   | <b>86.6</b>   | 76  |
| 8/31/2017   | <b>80.5</b>   | <b>82.5</b>   | <b>86.9</b>   | <b>87.9</b>   | 84  |
| 9/1/2017  | 77.8  | <b>82.6</b>   | <b>87.4</b>   | <b>88.4</b>   | 87  |
| 9/2/2017  | <b>82.8</b>   | <b>84.3</b>   | <b>83.0</b>   | <b>87.7</b>   | 94  |
| 9/3/2017  | <b>84.6</b>   | <b>85.6</b>   | <b>81.0</b>   | <b>84.0</b>   | 91  |
| 9/4/2017  | <b>85.3</b>   | <b>85.9</b>   | <b>82.2</b>   | <b>82.6</b>   | 88  |
| 9/5/2017  | <b>86.3</b>   | <b>87.4</b>   | <b>81.0</b>   | <b>81.8</b>   | 97  |
| 9/6/2017  | <b>86.4</b>   | <b>87.1</b>   | 78.8  | <b>81.7</b>   | 83  |
| 9/7/2017  | <b>81.5</b>   | <b>86.9</b>   | <b>80.1</b>   | <b>82.2</b>   | 76  |
| 9/8/2017  | <b>82.4</b>   | <b>84.5</b>   | <b>81.2</b>   | <b>81.9</b>   | 72  |
| 9/9/2017  | <b>83.2</b>   | <b>83.6</b>   | <b>80.6</b>   | <b>81.6</b>   | 73  |
| 9/10/2017   | <b>82.2</b>   | <b>82.7</b>   | <b>80.2</b>   | <b>81.1</b>   | 75  |
| 9/11/2017   | 76.9  | <b>81.7</b>   | 78.8  | <b>80.2</b>   | 85  |
| 9/12/2017   | 77.2  | <b>80.3</b>   | 77.0  | 78.3  | 82  |
| 9/13/2017   | 77.3  | <b>80.1</b>   | 77.1  | 79.1  | 67  |
| 9/14/2017   | 77.6  | 78.9  | 76.8  | 78.0  | 75  |
| 9/15/2017   | 78.4  | <b>81.4</b>   | 76.4  | 78.6  | 79  |
| 9/16/2017   | 77.1  | 78.1  | 77.5  | <b>80.0</b>   | 73  |
| 9/17/2017   | 76.1  | 77.0  | 78.2  | 79.5  | 66  |
| 9/18/2017   | 75.2  | 76.9  | 76.9  | 77.5  | 55  |
| 9/19/2017   | 75.7  | 79.1  | 76.8  | 77.8  | 52  |
| 9/20/2017   | 75.0  | 77.0  | 78.3  | 79.8  | 52  |
| 9/21/2017   | 76.6  | 78.6  | 78.6  | 79.8  | 63  |
| 9/22/2017   | 76.8  | 77.7  | <b>80.0</b>   | <b>81.7</b>   | 64  |
| 9/23/2017   | 76.2  | 76.8  | <b>80.8</b>   | <b>82.3</b>   | 72  |
| 9/24/2017   | 75.3  | 77.0  | <b>80.6</b>   | <b>81.5</b>   | 70  |
| 9/25/2017   | 75.1  | 77.9  | 78.0  | 79.7  | 62  |
| 9/26/2017   | 75.9  | 77.3  | 74.8  | 76.1  | 74  |
| 9/27/2017   | 76.0  | 77.9  | 75.2  | 77.6  | 85  |
| 9/28/2017   | 78.5  | <b>82.3</b>   | 76.2  | 77.9  | 89  |
| 9/29/2017   | 77.6  | 79.4  | 77.8  | 79.8  | 62  |
| 9/30/2017   | 75.2  | 76.5  | 77.9  | 79.7  | 56  |
| 10/1/2017   | 72.8  | 74.4  | 77.1  | 78.3  | 53  |
| 10/2/2017   | 74.4  | 77.4  | 75.5  | 76.8  | 58  |
| 10/3/2017   | 75.7  | 79.2  | 73.1  | 73.8  | 65  |
| 10/4/2017   | 76.5  | <b>80.8</b>   | 74.2  | 75.9  | 66  |
| <b>Project Action Level (School not in session)<sup>3</sup></b>     | <b>&gt;10°F higher than outdoor ambient maximum</b> | <b>NA</b>   |
| <b>Project Maximum Action Level (School in session)<sup>3</sup></b> | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>NA</b>   |

**Table 5**  
**Basement Indoor Air (Room) Temperatures**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date  | Location  |   |   |   |   |
|---|---|---|---|---|---|
|   | Cafeteria (B10) <sup>1</sup>                        |   | Southwest Hallway <sup>1</sup>                      |   | Outdoor Ambient Maximum Temperature (°F) <sup>2</sup> |
|   | Average Temperature (°F)                            | Maximum Temperature (°F)                            | Average Temperature (°F)                            | Maximum Temperature (°F)                            |   |
| 10/5/2017   | 75.5  | 78.8  | 75.4  | 77.1  | 68  |
| 10/6/2017   | 75.0  | 77.6  | 74.3  | 75.9  | 68  |
| 10/7/2017   | 73.3  | 74.9  | 73.3  | 74.9  | 55  |
| 10/8/2017   | 71.1  | 72.9  | 73.4  | 76.5  | 56  |
| 10/9/2017   | 74.1  | 78.3  | 71.0  | 72.9  | 61  |
| 10/10/2017  | 75.4  | 79.1  | 69.8  | 70.7  | 54  |
| 10/11/2017  | 74.6  | 78.0  | 72.2  | 74.5  | 47  |
| 10/12/2017  | 73.7  | 77.1  | 74.2  | 76.3  | 47  |
| 10/13/2017  | 71.8  | 75.5  | 73.6  | 75.8  | 47  |
| 10/14/2017  | 67.5  | 69.6  | 72.9  | 74.0  | 54  |
| 10/15/2017  | 65.7  | 68.6  | 73.2  | 75.5  | 63  |
| 10/16/2017  | 69.2  | 73.5  | 70.1  | 72.1  | 65  |
| 10/17/2017  | 72.3  | 76.8  | 67.8  | 68.1  | 53  |
| 10/18/2017  | 71.9  | 74.3  | 71.1  | 74.5  | 52  |
| 10/19/2017  | 72.2  | 75.9  | 74.1  | 76.9  | 52  |
| 10/20/2017  | 72.2  | 75.4  | 75.6  | 77.7  | 49  |
| 10/21/2017  | 67.7  | 71.1  | 75.6  | 77.6  | 43  |
| 10/22/2017  | 64.8  | 67.0  | 76.0  | 77.8  | 51  |
| 10/23/2017  | 69.7  | 74.6  | 74.6  | 75.8  | 58  |
| 10/24/2017  | 71.8  | 75.3  | 73.5  | 74.2  | 62  |
| 10/25/2017  | 73.2  | 77.6  | 74.2  | 76.0  | 53  |
| 10/26/2017  | 74.0  | 77.4  | 74.3  | 76.2  | 59  |
| 10/27/2017  | 73.0  | 76.7  | 74.3  | 75.8  | 66  |
| <b>Project Action Level (School not in session)<sup>3</sup></b>     | <b>&gt;10°F higher than outdoor ambient maximum</b> | <b>NA</b>   |
| <b>Project Maximum Action Level (School in session)<sup>3</sup></b> | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>80</b>   | <b>NA</b>   |

**NOTES:**

Results in **bold** denote measured values exceed the applicable project action level.

<sup>1</sup> Temperatures were measured using Log Tag HAXO-8 Humidity and Temperature Recorder thermometers.

°F = degrees Fahrenheit

<sup>2</sup> Temperatures were measured at Riverwood Personal Weather Station, Baring, WA KWABARIN3.

NA = not applicable

<sup>3</sup> Project action levels are defined in Addendum # 3 to 2010 Compliance Monitoring Plan Update dated February 17, 2015, prepared by Farallon Consulting, L.L.C. The 2017-2018 School year began on August 30, 2017.

-- = not measured

**Table 6**  
**Photoionization Detector Summary Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Location                                 | Week No. | Date       | Average Volatile Organic Concentration (ppm) | Peak Volatile Organic Concentration (ppm) |
|--|----------|------------|--|---|
| Room B10<br>(Basement Cafeteria)         | 1        | 6/8/2017   | 0  | 2   |
|  | 2        | 6/15/2017  | 1  | 2   |
|  | 3        | 6/22/2017  | 1  | 1   |
|  | 4        | 6/29/2017  | 1  | 1   |
|  | 5        | 7/6/2017   | 1  | 1   |
|  | 6        | 7/13/2017  | 0  | 0   |
|  | 7        | 7/20/2017  | <5 <sup>1</sup>                              | <5 <sup>1</sup>                           |
|  | 8        | 7/27/2017  | <5 <sup>1</sup>                              | <5 <sup>1</sup>                           |
|  | 9        | 8/3/2017   | <5 <sup>1</sup>                              | <5 <sup>1</sup>                           |
|  | 10       | 8/10/2017  | <5 <sup>1</sup>                              | <5 <sup>1</sup>                           |
|  | 11       | 8/17/2017  | <5 <sup>1</sup>                              | <5 <sup>1</sup>                           |
|  | 12       | 8/24/2017  | 0  | 2   |
|  | 13       | 8/31/2017  | 1  | 2   |
|  | 14       | 9/7/2017   | 1  | 2   |
|  | 15       | 9/14/2017  | 1  | 1   |
|  | 16       | 9/21/2017  | 1  | 1   |
|  | 17       | 9/28/2017  | 1  | 1   |
|  | 18       | 10/5/2017  | 1  | 1   |
|  | 19       | 10/12/2017 | 1  | 1   |
|  | 20       | 10/19/2017 | 1  | 1   |
| Room B70<br>(Basement Kindergarten)      | 1        | 6/8/2017   | 0  | 2   |
|  | 2        | 6/15/2017  | 0  | 2   |
|  | 3        | 6/22/2017  | 0  | 0   |
|  | 4        | 6/29/2017  | <5 <sup>1</sup>                              | <5 <sup>1</sup>                           |
|  | 5        | 7/6/2017   | 0  | 0   |
|  | 6        | 7/13/2017  | <5 <sup>1</sup>                              | <5 <sup>1</sup>                           |
|  | 7        | 7/20/2017  | 1  | 2   |
|  | 8        | 7/27/2017  | 2  | 2   |
|  | 9        | 8/3/2017   | 2  | 2   |
|  | 10       | 8/10/2017  | 2  | 2   |
|  | 11       | 8/17/2017  | 2  | 2   |
|  | 12       | 8/24/2017  | 2  | 2   |
|  | 13       | 8/31/2017  | 2  | 2   |
|  | 14       | 9/7/2017   | 2  | 2   |
|  | 15       | 9/14/2017  | 2  | 2   |
|  | 16       | 9/21/2017  | 2  | 2   |
|  | 17       | 9/28/2017  | 2  | 2   |
|  | 18       | 10/5/2017  | 2  | 2   |
|  | 19       | 10/12/2017 | 2  | 2   |
|  | 20       | 10/19/2017 | 2  | 2   |
| <b>Project Action Level <sup>2</sup></b> |          |            | <b>5</b>                                     | <b>5</b>                                  |

**Table 6**  
**Photoionization Detector Summary Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| <b>Location</b>                          | <b>Week No.</b> | <b>Date</b> | <b>Average Volatile Organic Concentration (ppm)</b> | <b>Peak Volatile Organic Concentration (ppm)</b> |
|--|-----------------|-------------|---|--|
| Room 170<br>(Second Floor Main Office)   | 1               | 6/8/2017    | 0   | 1  |
|  | 2               | 6/15/2017   | 1   | 1  |
|  | 3               | 6/22/2017   | 1   | 1  |
|  | 4               | 6/29/2017   | 1   | 2  |
|  | 5               | 7/6/2017    | 1   | 2  |
|  | 6               | 7/13/2017   | 1   | 2  |
|  | 7               | 7/20/2017   | 1   | 2  |
|  | 8               | 7/27/2017   | 1   | 2  |
|  | 9               | 8/3/2017    | 1   | 2  |
|  | 10              | 8/10/2017   | 1   | 2  |
|  | 11              | 8/17/2017   | 1   | 2  |
|  | 12              | 8/24/2017   | 1   | 2  |
|  | 13              | 8/31/2017   | 1   | 2  |
|  | 14              | 9/7/2017    | 1   | 2  |
|  | 15              | 9/14/2017   | 1   | 1  |
|  | 16              | 9/21/2017   | 1   | 1  |
|  | 17              | 9/28/2017   | 1   | 1  |
|  | 18              | 10/5/2017   | 1   | 1  |
|  | 19              | 10/12/2017  | 1   | 1  |
|  | 20              | 10/19/2017  | 1   | 1  |
| <b>Project Action Level <sup>2</sup></b> |                 |             | <b>5</b>  | <b>5</b>   |

**NOTES:**

Measurements were obtained using a RAEGuard 2 Fixed photoionization detector (PID).

<sup>1</sup>The PID wall unit was out of service and being repaired. A handheld PID was used in its place. Due to the limited memory capacity of the handheld PID, the PID operated without datalogging; no PID alarms occurred during the monitoring period.

<sup>2</sup>Project action level is based on 5-minute continuous readings.

Project action levels are defined in Addendum # 3 to 2010 Compliance Monitoring Plan Update dated February 17, 2015, prepared by Farallon Consulting, L.L.C.

ppm = parts per million

**Table 7**  
**Indoor Air Sampling Results - Air-Phase Petroleum Hydrocarbons**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Sample Date                                     | Sample No. | Sample Location          | 1,3-Butadiene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Methyl tert<br>butyl ether<br>(µg/m <sup>3</sup> ) | Benzene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Toluene<br>(µg/m <sup>3</sup> ) | Ethylbenzene<br>(µg/m <sup>3</sup> ) | Xylene, m-p<br>(µg/m <sup>3</sup> ) | Xylene, o<br>(µg/m <sup>3</sup> ) | Naphthalene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Aliphatics, C5<br>to C8<br>(µg/m <sup>3</sup> ) | Aliphatics, C9<br>to C12<br>(µg/m <sup>3</sup> ) | Aromatics,<br>C9 to C10<br>(µg/m <sup>3</sup> ) | Total APH <sup>4</sup><br>(µg/m <sup>3</sup> ) |
|---|------------|--------------------------|--|--|--|---------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--|---|--|---|--|
| <b>Occupied School Baseline Monitoring Data</b> |            |                          |  |  |  |                                 |                                      |                                     |                                   |  |   |  |   |  |
| 5/28/2015                                       | 052815-BNE | Basement - Northeast     | <0.044   | <2.0   | <b>1.33<sup>5</sup></b>                      | 17                              | <2.0                                 | 6.1                                 | <2.0                              | 0.551  | 320   | 420  | <10   | 773.0  |
| 5/28/2015                                       | 052815-BSW | Basement - Southwest     | <0.044   | <2.0   | <b>0.447<sup>5</sup></b>                     | 150                             | <2.0                                 | <4.0                                | <2.0                              | 0.267  | 150   | 92   | <10   | 402.7  |
| 5/28/2015                                       | 052815-BC  | Basement - Central       | <0.044   | <2.0   | <b>1.04<sup>5</sup></b>                      | 230                             | 2.2                                  | 6.7                                 | 2.4                               | 0.54   | 250   | 340  | <10   | 838.9  |
| 5/28/2015                                       | 052816-1NE | First Floor - Northeast  | <0.044   | <2.0   | <b>0.492<sup>5</sup></b>                     | 12                              | <2.0                                 | 5.2                                 | 2                                 | 0.461  | 120   | 280  | <10   | 427.2  |
| 5/28/2015                                       | 052815-1SW | First Floor - Southwest  | <0.044   | <2.0   | <b>0.521<sup>5</sup></b>                     | 12                              | <2.0                                 | 4.7                                 | <2.0                              | 0.094  | 170   | 250  | <10   | 445.3  |
| 5/28/2015                                       | 052815-1C  | First Floor- Central     | <0.044   | <2.0   | <b>0.700<sup>5</sup></b>                     | 9                               | <2.0                                 | <4.0                                | <2.0                              | 0.461  | 100   | 150  | <10   | 270.2  |
| 5/28/2015                                       | 052815-2NE | Second Floor - Northeast | <0.044   | <2.0   | <b>1.63<sup>5</sup></b>                      | 12                              | <2.0                                 | 6.2                                 | 2                                 | 0.456  | 170   | 270  | <10   | 469.3  |
| 5/28/2015                                       | 052815-2SW | Second Floor - Southwest | <0.044   | <2.0   | <b>0.470<sup>5</sup></b>                     | 4.7                             | <2.0                                 | <4.0                                | <2.0                              | 0.467  | 83  | 100  | <10   | 198.6  |
| <b>Monthly Monitoring Data</b>                  |            |                          |  |  |  |                                 |                                      |                                     |                                   |  |   |  |   |  |
| 1/23/2017                                       | 012317_BNE | Basement - Northeast     | 0.053  | < 0.70   | <b>1.03<sup>5</sup></b>                      | 5.6                             | < 0.90                               | 3.5                                 | 0.93                              | < 0.262  | 63  | 14   | < 10  | 94.0   |
| 1/23/2017                                       | 012317_BSW | Basement - Southwest     | 0.051  | < 0.70   | <b>0.818<sup>5</sup></b>                     | 3.5                             | < 0.90                               | 2.0                                 | < 0.90                            | 0.262  | 31  | < 10   | < 10  | 48.8   |
| 1/23/2017                                       | 012317_BC  | Basement - Central       | 0.066  | < 0.70   | <b>1.02<sup>5</sup></b>                      | 4.5                             | < 0.90                               | 2.5                                 | < 0.90                            | 0.288  | 41  | < 10   | < 10  | 60.6   |
| 1/23/2017                                       | 012317_1SE | First Floor - Southeast  | 0.047  | < 0.70   | <b>1.04<sup>5</sup></b>                      | 5.5                             | 0.91                                 | 3.3                                 | 1.0                               | < 0.262  | 38  | < 10   | < 10  | 60.2   |
| 1/23/2017                                       | 012317_1C  | First Floor - Central    | 0.073  | < 0.70   | <b>1.22<sup>5</sup></b>                      | 6.4                             | 0.92                                 | 3.8                                 | 1.2                               | 0.273  | 62  | 14   | < 10  | 95.2   |
| 1/23/2017                                       | 012317_2SE | Second Floor - Southeast | 0.069  | < 0.70   | <b>1.27<sup>5</sup></b>                      | 6.9                             | 1.0                                  | 4.2                                 | 1.4                               | 0.288  | 56  | < 10   | < 10  | 81.4   |
| 2/22/2017                                       | 022217_BNE | Basement - Northeast     | 0.075  | < 0.70   | <b>1.03<sup>5</sup></b>                      | 5.7                             | < 0.90                               | 2.8                                 | 0.93                              | < 0.262  | 62  | 26   | < 10  | 104.4  |
| 2/22/2017                                       | 022217_BSW | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.776<sup>5</sup></b>                     | 3.5                             | < 0.90                               | 1.8                                 | < 0.90                            | 0.267  | 58  | < 10   | < 10  | 75.6   |
| 2/22/2017                                       | 022217_BC  | Basement - Central       | 0.044  | < 0.70   | <b>1.03<sup>5</sup></b>                      | 10                              | 3.0                                  | 12                                  | 4.2                               | < 0.262  | 74  | 75   | 14  | 193.7  |
| 2/22/2017                                       | 022217_1SE | First Floor - Southeast  | < 0.044  | < 0.70   | <b>1.22<sup>5</sup></b>                      | 6.2                             | < 0.90                               | 3.0                                 | 0.91                              | < 0.262  | 44  | < 10   | < 10  | 66.3   |
| 2/22/2017                                       | 022217_1C  | First Floor - Central    | 0.049  | < 0.70   | <b>1.42<sup>5</sup></b>                      | 8.1                             | 1.0                                  | 4.1                                 | 1.2                               | < 0.262  | 60  | < 10   | < 10  | 86.3   |
| 2/22/2017                                       | 022217_2SE | Second Floor - Southeast | 0.053  | < 0.70   | <b>1.64<sup>5</sup></b>                      | 9.3                             | 1.1                                  | 4.6                                 | 1.4                               | < 0.262  | 79  | 10   | < 10  | 112.5  |
| 3/28/2017                                       | 032817_BNE | Basement - Northeast     | < 0.044  | < 0.70   | <b>0.827<sup>5</sup></b>                     | 21                              | 1.6                                  | 6.1                                 | 1.7                               | < 0.262  | 52  | 48   | < 10  | 136.7  |
| 3/28/2017                                       | 032817_BSW | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.997<sup>5</sup></b>                     | 6.3                             | 1.2                                  | 4.4                                 | 1.4                               | 0.451  | 39  | < 10   | < 10  | 64.1   |
| 3/28/2017                                       | 032817_BC  | Basement - Central       | < 0.044  | < 0.70   | <b>1.13<sup>5</sup></b>                      | 7.8                             | 1.4                                  | 5.3                                 | 1.6                               | 0.304  | 32  | < 10   | < 10  | 59.9   |
| 3/28/2017                                       | 032817_1SE | First Floor - Southeast  | < 0.044  | < 0.70   | <b>1.33<sup>5</sup></b>                      | 9.2                             | 1.7                                  | 6.2                                 | 2.0                               | 0.315  | 49  | < 10   | < 10  | 80.1   |
| 3/28/2017                                       | 032817_1C  | First Floor - Central    | < 0.044  | < 0.70   | <b>1.73<sup>5</sup></b>                      | 13                              | 2.0                                  | 8.2                                 | 2.4                               | 0.304  | 73  | < 10   | < 10  | 111.0  |
| 3/28/2017                                       | 032817_2SE | Second Floor - Southeast | < 0.044  | < 0.70   | <b>2.03<sup>5</sup></b>                      | 14                              | 2.2                                  | 8.8                                 | 2.8                               | 0.398  | 79  | < 10   | < 10  | 119.6  |
| 4/19/2017                                       | 041917_BNE | Basement - Northeast     | 0.055  | < 0.70   | <b>0.767<sup>5</sup></b>                     | 8.5                             | < 0.90                               | 2.6                                 | < 0.90                            | < 0.262  | 67  | 34   | < 10  | 119.2  |
| 4/19/2017                                       | 041917_BSW | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.68<sup>5</sup></b>                      | 4.7                             | < 0.90                               | 2.5                                 | < 0.90                            | < 0.262  | 46  | < 10   | < 10  | 65.3   |
| 4/19/2017                                       | 041917_BC  | Basement - Central       | < 0.044  | < 0.70   | <b>0.744<sup>5</sup></b>                     | 5.5                             | < 0.90                               | 3.0                                 | 0.94                              | < 0.262  | 48  | 11   | < 10  | 75.1   |
| 4/19/2017                                       | 041917_1SE | First Floor - Southeast  | < 0.044  | < 0.70   | <b>0.962<sup>5</sup></b>                     | 9.1                             | 1.1                                  | 3.9                                 | 1.2                               | < 0.262  | 62  | 12   | < 10  | 95.7   |
| 4/19/2017                                       | 041917_1C  | First Floor - Central    | 0.060  | < 0.70   | <b>1.06<sup>5</sup></b>                      | 8.1                             | 1.1                                  | 4.4                                 | 1.3                               | < 0.262  | 72  | 34   | < 10  | 127.4  |
| 4/19/2017                                       | 041917_2SE | Second Floor - Southeast | < 0.044  | < 0.70   | <b>1.38<sup>5</sup></b>                      | 11                              | 1.5                                  | 6.1                                 | 1.9                               | 0.267  | 85  | 30   | < 10  | 142.5  |
| <b>Project Action Levels (µg/m<sup>3</sup>)</b> |            |                          | <b>0.083<sup>2</sup></b>                           | <b>9.6<sup>2</sup></b>                             | <b>0.32<sup>2</sup></b>                      | <b>2,290<sup>2</sup></b>        | <b>460<sup>2</sup></b>               | <b>46<sup>2</sup></b>               | <b>46<sup>2</sup></b>             | <b>1.4<sup>2</sup></b>                           | <b>No CLARC criteria available</b>              |  |   | <b>1,346<sup>3</sup></b>                       |

**Table 7**  
**Indoor Air Sampling Results - Air-Phase Petroleum Hydrocarbons**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Sample Date                                     | Sample No.    | Sample Location          | 1,3-Butadiene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Methyl tert<br>butyl ether<br>(µg/m <sup>3</sup> ) | Benzene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Toluene<br>(µg/m <sup>3</sup> ) | Ethylbenzene<br>(µg/m <sup>3</sup> ) | Xylene, m-p<br>(µg/m <sup>3</sup> ) | Xylene, o<br>(µg/m <sup>3</sup> ) | Naphthalene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Aliphatics, C5<br>to C8<br>(µg/m <sup>3</sup> ) | Aliphatics, C9<br>to C12<br>(µg/m <sup>3</sup> ) | Aromatics,<br>C9 to C10<br>(µg/m <sup>3</sup> ) | Total APH <sup>4</sup><br>(µg/m <sup>3</sup> ) |
|---|---------------|--------------------------|--|--|--|---------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--|---|--|---|--|
| 5/25/2017                                       | 052517_BNE    | Basement - Northeast     | < 0.044  | < 0.70   | <b>0.754</b> <sup>5</sup>                    | 8.8                             | < 0.90                               | 3.2                                 | 1.0                               | < 0.262  | 39  | 24   | < 10  | 82.7   |
| 5/25/2017                                       | 052517_BSW    | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.575</b> <sup>5</sup>                    | 7.6                             | < 0.90                               | 2.7                                 | 0.95                              | 0.372  | 29  | 19   | < 10  | 66.0   |
| 5/25/2017                                       | 052517_BC     | Basement - Central       | < 0.044  | < 0.70   | <b>0.671</b> <sup>5</sup>                    | 6.2                             | < 0.90                               | 3.1                                 | 0.95                              | 0.32   | 23  | < 10   | < 10  | 45.0   |
| 5/25/2017                                       | 052517_1SE    | First Floor - Southeast  | < 0.044  | < 0.70   | <b>1.12</b> <sup>5</sup>                     | 10                              | 1.5                                  | 5.4                                 | 1.7                               | 0.32   | 56  | < 10   | < 10  | 86.4   |
| 5/25/2017                                       | 052517_1C     | First Floor - Central    | < 0.044  | < 0.70   | <b>0.863</b> <sup>5</sup>                    | 9.8                             | 1.0                                  | 4.2                                 | 1.3                               | 0.32   | 32  | 16   | < 10  | 70.8   |
| 5/25/2017                                       | 052517_2SE    | Second Floor - Southeast | < 0.044  | < 0.70   | <b>1.13</b> <sup>5</sup>                     | 11                              | 1.4                                  | 5.6                                 | 1.6                               | 0.498  | 46  | 10   | < 10  | 82.6   |
| <b>Weekly Monitoring Data</b>                   |               |                          |  |  |  |                                 |                                      |                                     |                                   |  |   |  |   |  |
| 6/7/2017  | 060717_BNE    | Basement - Northeast     | 0.060  | < 0.70   | <b>1.11</b> <sup>5</sup>                     | 9.8                             | 0.96                                 | 3.6                                 | 1.2                               | < 0.262  | 110   | 13   | < 10  | 145.2  |
| 6/7/2017  | 060717_BSW    | Basement - Southwest     | 0.053  | < 0.70   | <b>1.13</b> <sup>5</sup>                     | 6.3                             | < 0.90                               | 2.8                                 | < 0.90                            | 0.283  | 76  | < 10   | < 10  | 97.8   |
| 6/7/2017  | 060717_BC     | Basement - Central       | 0.077  | < 0.70   | <b>1.31</b> <sup>5</sup>                     | 9.1                             | 1.0                                  | 3.7                                 | 1.1                               | 0.482  | 94  | < 10   | < 10  | 121.0  |
| 6/7/2017  | 060717_1SE    | First Floor - Southeast  | < 0.044  | < 0.70   | <b>0.463</b> <sup>5</sup>                    | 2.2                             | < 0.90                               | 1.0                                 | < 0.90                            | < 0.262  | 32  | < 10   | < 10  | 47.0   |
| 6/7/2017  | 060717_1C     | First Floor - Central    | 0.064  | < 0.70   | <b>2.08</b> <sup>5</sup>                     | 15                              | 2.2                                  | 8.5                                 | 2.7                               | 0.378  | 150   | < 10   | < 10  | 191.2  |
| 6/7/2017  | 060717_2SE    | Second Floor - Southeast | 0.047  | < 0.70   | <b>0.958</b> <sup>5</sup>                    | 8.2                             | < 0.90                               | 2.7                                 | < 0.90                            | < 0.262  | 66  | < 10   | < 10  | 89.2   |
| 6/16/2017                                       | BASE-061617   | Room B10                 | < 0.044  | < 0.70   | <b>1.98</b> <sup>5</sup>                     | 13                              | 1.5                                  | 6.4                                 | 1.8                               | 0.273  | 85  | < 10   | < 10  | 120.3  |
| 6/16/2017                                       | FIRST-061617  | Room 170                 | < 0.044  | < 0.70   | <b>1.49</b> <sup>5</sup>                     | 10                              | 1.2                                  | 4.6                                 | 1.4                               | < 0.262  | 57  | 14   | < 10  | 95.2   |
| 6/16/2017                                       | SECOND-061617 | Outside Room 210         | < 0.044  | < 0.70   | <b>1.91</b> <sup>5</sup>                     | 15                              | 1.7                                  | 6.5                                 | 1.9                               | 0.572  | 90  | 9,400  | < 10  | <b>9,523</b> <sup>7</sup>                      |
| 6/22/2017                                       | BASE_062217   | Room B10                 | < 0.044  | < 0.70   | <b>0.994</b> <sup>5</sup>                    | 5.7                             | < 0.90                               | 2.7                                 | < 0.90                            | < 0.262  | 78  | < 10   | < 10  | 98.8   |
| 6/22/2017                                       | FIRST_062217  | Room 170                 | < 0.044  | < 0.70   | <b>1.16</b> <sup>5</sup>                     | 6.8                             | < 0.90                               | 3.3                                 | 0.99                              | < 0.262  | 89  | < 10   | < 10  | 112.2  |
| 6/22/2017                                       | SECOND_062217 | Outside Room 210         | < 0.044  | < 0.70   | <b>2.05</b> <sup>5</sup>                     | 12                              | 1.4                                  | 5.9                                 | 1.7                               | < 0.262  | 150   | < 10   | < 10  | 183.5  |
| 6/29/2017                                       | BASE_062917   | Room B10                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | < 10  | 48   | < 10  | 60.4   |
| 6/29/2017                                       | FIRST_062917  | Room 170                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 3.5                             | 0.97                                 | 3.8                                 | 1.8                               | 0.965  | 66  | 1,400  | 14  | <b>1,492</b> <sup>7</sup>                      |
| 6/29/2017                                       | SECOND_062917 | Outside Room 210         | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 2.4                             | < 0.90                               | 1.7                                 | < 0.90                            | 0.404  | 32  | 530  | < 10  | 572.9  |
| 7/6/2017  | BASE_070617   | Room B10                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | < 10  | < 10   | < 10  | 17.4   |
| 7/6/2017  | FIRST_070617  | Room 170                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | 0.288  | < 10  | < 10   | < 10  | 17.6   |
| 7/6/2017  | SECOND_070617 | Outside Room 210         | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 2.0                             | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | 27  | < 10   | < 10  | 41.0   |
| 7/14/2017                                       | BASE_071417   | Room B10                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | < 10  | < 10   | < 10  | 17.4   |
| 7/14/2017                                       | FIRST_071417  | Room 170                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 2.0                             | 16                                   | <b>52</b> <sup>7</sup>              | 12                                | < 0.262  | 37  | 35   | < 10  | 159.6  |
| 7/14/2017                                       | SECOND_071417 | Outside Room 210         | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 2.5                             | 13                                   | 41                                  | 9.9                               | 0.351  | 30  | 54   | < 10  | 156.3  |
| 7/20/2017                                       | BASE_072017   | Room B10                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | < 10  | < 10   | < 10  | 17.4   |
| 7/20/2017                                       | FIRST_072017  | Room 170                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 4.4                             | < 0.90                               | 1.8                                 | < 0.90                            | 0.315  | 17  | 99   | < 10  | 128.9  |
| 7/20/2017                                       | SECOND_072017 | Outside Room 210         | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 3.5                             | < 0.90                               | 1.3                                 | < 0.90                            | < 0.262  | 14  | 150  | < 10  | 175.3  |
| 7/27/2017                                       | BASE_072717   | Room B10                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | < 10  | < 10   | < 10  | 17.4   |
| 7/27/2017                                       | FIRST_072717  | Room 170                 | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | < 10  | < 10   | < 10  | 17.4   |
| 7/27/2017                                       | SECOND_072717 | Outside Room 210         | < 0.044  | < 0.70   | < 0.319 <sup>5</sup>                         | 1.6                             | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | 13  | 11   | < 10  | 32.6   |
| 8/3/2017  | BASE_080317   | Room B10                 | < 0.044  | < 0.70   | <b>0.770</b> <sup>5</sup>                    | 16                              | < 0.90                               | 1.7                                 | < 0.90                            | 0.388  | 11  | < 10   | < 10  | 41.1   |
| 8/3/2017  | FIRST_080317  | Room 170                 | < 0.044  | < 0.70   | <b>0.738</b> <sup>5</sup>                    | 1.8                             | < 0.90                               | 2.1                                 | < 0.90                            | < 0.262  | < 10  | < 10   | < 10  | 21.0   |
| 8/3/2017  | SECOND_080317 | Outside Room 210         | < 0.044  | < 0.70   | <b>0.837</b> <sup>5</sup>                    | 12                              | < 0.90                               | 1.4                                 | < 0.90                            | < 0.262  | 12  | < 10   | < 10  | 37.6   |
| <b>Project Action Levels (µg/m<sup>3</sup>)</b> |               |                          | <b>0.083</b> <sup>2</sup>                          | <b>9.6</b> <sup>2</sup>                            | <b>0.32</b> <sup>2</sup>                     | <b>2,290</b> <sup>2</sup>       | <b>460</b> <sup>2</sup>              | <b>46</b> <sup>2</sup>              | <b>46</b> <sup>2</sup>            | <b>1.4</b> <sup>2</sup>                          | <b>No CLARC criteria available</b>              |  |   | <b>1,346</b> <sup>3</sup>                      |

**Table 7**  
**Indoor Air Sampling Results - Air-Phase Petroleum Hydrocarbons**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Sample Date                                     | Sample No.    | Sample Location          | 1,3-Butadiene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Methyl tert<br>butyl ether<br>(µg/m <sup>3</sup> ) | Benzene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Toluene<br>(µg/m <sup>3</sup> ) | Ethylbenzene<br>(µg/m <sup>3</sup> ) | Xylene, m-p<br>(µg/m <sup>3</sup> ) | Xylene, o<br>(µg/m <sup>3</sup> ) | Naphthalene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Aliphatics, C5<br>to C8<br>(µg/m <sup>3</sup> ) | Aliphatics, C9<br>to C12<br>(µg/m <sup>3</sup> ) | Aromatics,<br>C9 to C10<br>(µg/m <sup>3</sup> ) | Total APH <sup>4</sup><br>(µg/m <sup>3</sup> ) |
|---|---------------|--------------------------|--|--|--|---------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--|---|--|---|--|
| 8/10/2017                                       | BASE_081017   | Room B10                 | <0.044   | <0.70  | <b>0.652</b> <sup>5</sup>                    | <0.90                           | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | 11   | <10   | 23.9   |
| 8/10/2017                                       | FIRST_081017  | Room 170                 | <0.044   | <0.70  | <b>0.744</b> <sup>5</sup>                    | 0.96                            | <0.90                                | <0.90                               | <0.90                             | <0.262   | 10  | 17   | <10   | 35.5   |
| 8/10/2017                                       | SECOND_081017 | Outside Room 210         | <0.044   | <0.70  | <b>0.795</b> <sup>5</sup>                    | 1.4                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | 15  | 59   | <10   | 83.0   |
| 8/23/2017                                       | BASE_082317   | Room B10                 | <0.044   | <0.70  | <0.319 <sup>5</sup>                          | 1.1                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | <10  | <10   | 18.1   |
| 8/23/2017                                       | FIRST_082317  | Room 170                 | <0.044   | <0.70  | <0.319 <sup>5</sup>                          | 0.96                            | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | 12   | <10   | 25.0   |
| 8/23/2017                                       | SECOND_082317 | Outside Room 210         | <0.044   | <0.70  | <0.319 <sup>5</sup>                          | 1.2                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | <10  | <10   | 18.2   |
| 8/30/2017                                       | 083017_BNE    | Basement - Northeast     | <b>0.186</b>                                       | <0.70  | <b>0.409</b> <sup>5</sup>                    | 0.98                            | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | <10  | <10   | 18.2   |
| 8/30/2017                                       | 083017_BSW    | Basement - Southwest     | <0.044   | <0.70  | <0.319 <sup>5</sup>                          | 1.0                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | <10  | <10   | 18.0   |
| 8/30/2017                                       | 083017_BC     | Basement - Central       | <0.044   | <0.70  | <0.319 <sup>5</sup>                          | 1.6                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | <10  | <10   | 18.6   |
| 8/30/2017                                       | 083017_1SE    | First Floor - Southeast  | <0.044   | <0.70  | <0.319 <sup>5</sup>                          | 1.4                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | <10  | <10   | 18.4   |
| 8/30/2017                                       | 083017_1C     | First Floor - Central    | <0.044   | <0.70  | <0.319 <sup>5</sup>                          | <0.90                           | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | <10  | <10   | 17.4   |
| 8/30/2017                                       | 083017_2SE    | Second Floor - Southeast | <0.044   | <0.70  | <b>0.399</b> <sup>5</sup>                    | 4.1                             | <0.90                                | 1.4                                 | <0.90                             | 0.320  | 19  | 28   | <10   | 59.5   |
| 9/7/2017  | 090717_BNE    | Basement - Northeast     | <0.044   | <0.70  | <b>2.2</b> <sup>5,6</sup>                    | 2.2                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | 13  | <10  | <10   | 29.2   |
| 9/7/2017  | 090717_BSW    | Basement - Southwest     | <0.044   | <0.70  | <b>2.2</b> <sup>5,6</sup>                    | 3.4                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | <10   | 53   | <10   | 70.4   |
| 9/7/2017  | 090717_BC     | Basement - Central       | <0.044   | <0.70  | <b>2.3</b> <sup>5,6</sup>                    | 4.5                             | <0.90                                | 1.4                                 | <0.90                             | <0.262   | 21  | 58   | <10   | 93.6   |
| 9/7/2017  | 090717_1SE    | First Floor - Southeast  | <0.044   | <0.70  | <b>2.7</b> <sup>5,6</sup>                    | 5.5                             | <0.90                                | 2.2                                 | <0.90                             | 0.320  | 18  | 22   | <10   | 57.0   |
| 9/7/2017  | 090717_1C     | First Floor - Central    | <0.044   | <0.70  | <b>2.1</b> <sup>5,6</sup>                    | 3.2                             | <0.90                                | <0.90                               | <0.90                             | <0.262   | 11  | <10  | <10   | 28.1   |
| 9/7/2017  | 090717_2SE    | Second Floor - Southeast | <0.096   | <1.5   | <b>2.6</b> <sup>5,6</sup>                    | 7.5                             | <2.0                                 | 2.1                                 | <2.0                              | <0.572   | <22   | 62   | <22   | 99.2   |
| 9/14/2017                                       | 091417_BNE    | Basement - Northeast     | 0.051  | <0.70  | <b>0.786</b> <sup>5</sup>                    | 4.3                             | <0.90                                | 2.0                                 | <0.90                             | <0.262   | 44  | <10  | <10   | 62.5   |
| 9/14/2017                                       | 091417_BSW    | Basement - Southwest     | <0.044   | <0.70  | <b>0.540</b> <sup>5</sup>                    | 5.1                             | <0.90                                | 1.9                                 | <0.90                             | 0.351  | 42  | 3,800  | 14  | <b>3,865</b> <sup>7</sup>                      |
| 9/14/2017                                       | 091417_BC     | Basement - Central       | <0.044   | <0.70  | <b>0.751</b> <sup>5</sup>                    | 4.9                             | <0.90                                | 2.4                                 | <0.90                             | <0.262   | 36  | <10  | <10   | 55.4   |
| 9/14/2017                                       | 091417_1SE    | First Floor - Southeast  | <0.044   | <0.70  | <b>1.03</b> <sup>5</sup>                     | 8.7                             | <0.90                                | 3.1                                 | 1.0                               | <0.262   | 53  | 50   | <10   | 122.8  |
| 9/14/2017                                       | 091417_1C     | First Floor - Central    | <0.044   | <0.70  | <b>0.776</b> <sup>5</sup>                    | 4.6                             | <0.90                                | 2.2                                 | <0.90                             | <0.262   | 38  | <10  | <10   | 57.0   |
| 9/14/2017                                       | 091417_2SE    | Second Floor - Southeast | <0.044   | <0.70  | <b>1.27</b> <sup>5</sup>                     | 9.5                             | 1.1                                  | 4.5                                 | 1.4                               | <0.262   | 76  | <10  | <10   | 104.3  |
| 9/21/2017                                       | 092117_BNE    | Basement - Northeast     | <0.044   | <0.70  | <b>0.696</b> <sup>5</sup>                    | 4.1                             | <0.90                                | 2.1                                 | <0.90                             | <0.262   | 120   | <10  | <10   | 138.3  |
| 9/21/2017                                       | 092117_BSW    | Basement - Southwest     | <0.044   | <0.70  | <b>0.716</b> <sup>5</sup>                    | 4.8                             | <0.90                                | 2.1                                 | <0.90                             | <0.262   | 180   | <10  | <10   | 199.0  |
| 9/21/2017                                       | 092117_BC     | Basement - Central       | <0.044   | <0.70  | <b>0.751</b> <sup>5</sup>                    | 5.4                             | <0.90                                | 2.7                                 | <0.90                             | <0.262   | 150   | <10  | <10   | 170.2  |
| 9/21/2017                                       | 092117_1SE    | First Floor - Southeast  | <0.044   | <0.70  | <b>0.802</b> <sup>5</sup>                    | 5.6                             | <0.90                                | 2.6                                 | <0.90                             | <0.262   | 610   | <10  | <10   | 630.4  |
| 9/21/2017                                       | 092117_1C     | First Floor - Central    | <0.044   | <0.70  | <b>0.866</b> <sup>5</sup>                    | 6.1                             | <0.90                                | 2.9                                 | 0.96                              | <0.262   | 120   | <10  | <10   | 141.8  |
| 9/21/2017                                       | 092117_2SE    | Second Floor - Southeast | <0.044   | <0.70  | <b>0.795</b> <sup>5</sup>                    | 5.6                             | <0.90                                | 2.8                                 | <0.90                             | <0.262   | 150   | <10  | <10   | 170.6  |
| 9/28/2017                                       | 092817_BNE    | Basement - Northeast     | <0.044   | <0.70  | <b>0.412</b> <sup>5</sup>                    | 2.3                             | <0.90                                | 1.2                                 | <0.90                             | <0.262   | 13  | <10  | <10   | 28.3   |
| 9/28/2017                                       | 092817_BSW    | Basement - Southwest     | <0.044   | <0.70  | <b>0.617</b> <sup>5</sup>                    | 4.0                             | <0.90                                | 2.0                                 | <0.90                             | <0.262   | 15  | <10  | <10   | 33.0   |
| 9/28/2017                                       | 092817_BC     | Basement - Central       | <0.044   | <0.70  | <b>0.610</b> <sup>5</sup>                    | 4.1                             | <0.90                                | 2.1                                 | <0.90                             | <0.262   | 13  | <10  | <10   | 31.2   |
| 9/28/2017                                       | 092817_1SE    | First Floor - Southeast  | <0.044   | <0.70  | <b>0.827</b> <sup>5</sup>                    | 6.2                             | <0.90                                | 2.9                                 | 0.99                              | <0.262   | 30  | <10  | <10   | 51.8   |
| 9/28/2017                                       | 092817_1C     | First Floor - Central    | <0.044   | <0.70  | <b>0.601</b> <sup>5</sup>                    | 4.1                             | <0.90                                | 2.0                                 | <0.90                             | <0.262   | 16  | <10  | <10   | 34.1   |
| 9/28/2017                                       | 092817_2SE    | Second Floor - Southeast | <0.044   | <0.70  | <b>0.728</b> <sup>5</sup>                    | 6.2                             | <0.90                                | 2.8                                 | 0.95                              | <0.262   | 22  | <10  | <10   | 43.6   |
| <b>Project Action Levels (µg/m<sup>3</sup>)</b> |               |                          | <b>0.083</b> <sup>2</sup>                          | <b>9.6</b> <sup>2</sup>                            | <b>0.32</b> <sup>2</sup>                     | <b>2,290</b> <sup>2</sup>       | <b>460</b> <sup>2</sup>              | <b>46</b> <sup>2</sup>              | <b>46</b> <sup>2</sup>            | <b>1.4</b> <sup>2</sup>                          | <b>No CLARC criteria available</b>              |  |   | <b>1,346</b> <sup>3</sup>                      |

**Table 7**  
**Indoor Air Sampling Results - Air-Phase Petroleum Hydrocarbons**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Sample Date                                     | Sample No. | Sample Location          | 1,3-Butadiene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Methyl tert<br>butyl ether<br>(µg/m <sup>3</sup> ) | Benzene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Toluene<br>(µg/m <sup>3</sup> ) | Ethylbenzene<br>(µg/m <sup>3</sup> ) | Xylene, m-p<br>(µg/m <sup>3</sup> ) | Xylene, o<br>(µg/m <sup>3</sup> ) | Naphthalene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Aliphatics, C5<br>to C8<br>(µg/m <sup>3</sup> ) | Aliphatics, C9<br>to C12<br>(µg/m <sup>3</sup> ) | Aromatics,<br>C9 to C10<br>(µg/m <sup>3</sup> ) | Total APH <sup>4</sup><br>(µg/m <sup>3</sup> ) |
|---|------------|--------------------------|--|--|--|---------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--|---|--|---|--|
| 10/5/2017                                       | 100517_BNE | Basement - Northeast     | < 0.044  | < 0.70   | <b>0.358</b> <sup>5</sup>                    | < 0.90                          | < 0.90                               | < 0.90                              | < 0.90                            | < 0.262  | 15  | < 10   | < 10  | 27.6   |
| 10/5/2017                                       | 100517_BSW | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.725</b> <sup>5</sup>                    | 3.4                             | < 0.90                               | 1.6                                 | < 0.90                            | < 0.262  | 57  | < 10   | < 10  | 74.1   |
| 10/5/2017                                       | 100517_BC  | Basement - Central       | < 0.044  | < 0.70   | <b>0.824</b> <sup>5</sup>                    | 6.2                             | 1.0                                  | 3.9                                 | 1.3                               | < 0.262  | 140   | < 10   | < 10  | 163.7  |
| 10/5/2017                                       | 100517_1SE | First Floor - Southeast  | < 0.044  | < 0.70   | <b>0.837</b> <sup>5</sup>                    | 4.5                             | < 0.90                               | 1.9                                 | < 0.90                            | < 0.262  | 54  | < 10   | < 10  | 72.6   |
| 10/5/2017                                       | 100517_1C  | First Floor - Central    | < 0.044  | < 0.70   | <b>0.728</b> <sup>5</sup>                    | 3.4                             | < 0.90                               | 1.7                                 | < 0.90                            | < 0.262  | 47  | < 10   | < 10  | 64.2   |
| 10/5/2017                                       | 100517_2SE | Second Floor - Southeast | < 0.044  | < 0.70   | <b>1.13</b> <sup>5</sup>                     | 5.9                             | < 0.90                               | 2.9                                 | 0.93                              | < 0.262  | 75  | < 10   | < 10  | 96.8   |
| 10/12/2017                                      | 101217_BNE | Basement - Northeast     | < 0.044  | < 0.70   | <b>0.706</b> <sup>5</sup>                    | 4.3                             | < 0.90                               | 2.1                                 | < 0.90                            | < 0.262  | 31  | < 10   | < 10  | 49.5   |
| 10/12/2017                                      | 101217_BSW | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.636</b> <sup>5</sup>                    | 4.7                             | < 0.90                               | 2.1                                 | < 0.90                            | < 0.262  | 34  | < 10   | < 10  | 52.8   |
| 10/12/2017                                      | 101217_BC  | Basement - Central       | < 0.044  | < 0.70   | <b>0.764</b> <sup>5</sup>                    | 6.3                             | < 0.90                               | 2.8                                 | < 0.90                            | < 0.262  | 48  | < 10   | < 10  | 69.2   |
| 10/12/2017                                      | 101217_1SE | First Floor - Southeast  | < 0.044  | < 0.70   | <b>0.863</b> <sup>5</sup>                    | 6.6                             | 0.90                                 | 3.0                                 | 0.96                              | < 0.262  | 47  | < 10   | < 10  | 69.8   |
| 10/12/2017                                      | 101217_1C  | First Floor - Central    | < 0.044  | < 0.70   | <b>1.17</b> <sup>5</sup>                     | 9.6                             | 1.2                                  | 4.7                                 | 1.5                               | < 0.262  | 70  | < 10   | < 10  | 98.7   |
| 10/12/2017                                      | 101217_2SE | Second Floor - Southeast | < 0.044  | < 0.70   | <b>1.23</b> <sup>5</sup>                     | 10                              | 1.2                                  | 4.6                                 | 1.4                               | < 0.262  | 71  | < 10   | < 10  | 99.9   |
| 10/20/2017                                      | 102017_BNE | Basement - Northeast     | <b>0.113</b>                                       | < 0.70   | <b>0.540</b> <sup>5</sup>                    | 1.9                             | < 0.90                               | 1.0                                 | < 0.90                            | < 0.262  | 59  | 14   | < 10  | 82.8   |
| 10/20/2017                                      | 102017_BSW | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.633</b> <sup>5</sup>                    | 3.2                             | < 0.90                               | 1.5                                 | < 0.90                            | < 0.262  | 64  | < 10   | < 10  | 80.7   |
| 10/20/2017                                      | 102017_BC  | Basement - Central       | < 0.044  | < 0.70   | <b>0.735</b> <sup>5</sup>                    | 3.8                             | < 0.90                               | 1.9                                 | < 0.90                            | < 0.262  | 60  | < 10   | < 10  | 77.8   |
| 10/20/2017                                      | 102017_1SE | First Floor - Southeast  | < 0.044  | < 0.70   | <b>0.949</b> <sup>5</sup>                    | 5.6                             | < 0.90                               | 2.6                                 | < 0.90                            | < 0.262  | 74  | < 10   | < 10  | 94.5   |
| 10/20/2017                                      | 102017_1C  | First Floor - Central    | 0.066  | < 0.70   | <b>1.04</b> <sup>5</sup>                     | 6.4                             | < 0.90                               | 3.3                                 | 0.97                              | < 0.262  | 91  | 16   | < 10  | 124.6  |
| 10/20/2017                                      | 102017_2SE | Second Floor - Southeast | 0.069  | < 0.70   | <b>1.25</b> <sup>5</sup>                     | 7.4                             | 1.0                                  | 4.1                                 | 1.2                               | < 0.262  | 100   | < 10   | < 10  | 125.4  |
| <b>Monthly Monitoring Data</b>                  |            |                          |  |  |  |                                 |                                      |                                     |                                   |  |   |  |   |  |
| 11/15/2017                                      | 111517_BNE | Basement - Northeast     | <b>0.104</b>                                       | < 0.70   | <b>0.987</b> <sup>5</sup>                    | 5.6                             | < 0.90                               | 2.3                                 | < 0.90                            | < 0.262  | 580   | 10   | < 10  | 605.3  |
| 11/15/2017                                      | 111517_BSW | Basement - Southwest     | < 0.044  | < 0.70   | <b>0.843</b> <sup>5</sup>                    | 5.2                             | < 0.90                               | 2.2                                 | < 0.90                            | < 0.262  | 98  | 67   | < 10  | 179.6  |
| 11/15/2017                                      | 111517_BC  | Basement - Central       | 0.044  | < 0.70   | <b>0.869</b> <sup>5</sup>                    | 5.2                             | < 0.90                               | 2.5                                 | < 0.90                            | < 0.262  | 130   | < 10   | < 10  | 150.0  |
| 11/15/2017                                      | 111517_1SE | First Floor - Southeast  | < 0.044  | < 0.70   | <b>1.02</b> <sup>5</sup>                     | 7.4                             | < 0.90                               | 3.1                                 | 1.0                               | <b>1.81</b>                                      | 130   | < 10   | < 10  | 155.1  |
| 11/15/2017                                      | 111517_1C  | First Floor - Central    | 0.055  | < 0.70   | <b>1.24</b> <sup>5</sup>                     | 10                              | 1.2                                  | 4.9                                 | 1.7                               | 1.06   | 660   | 11   | < 10  | 696.5  |
| 11/15/2017                                      | 111517_2SE | Second Floor - Southeast | 0.053  | < 0.70   | <b>1.50</b> <sup>5</sup>                     | 13                              | 1.5                                  | 6.1                                 | 1.9                               | < 0.262  | 660   | < 10   | < 10  | 694.5  |
| 12/6/2017                                       | 120617_BNE | Basement - Northeast     | 0.069  | < 0.70   | <b>0.767</b> <sup>5</sup>                    | 3.9                             | < 0.90                               | 1.4                                 | < 0.90                            | < 0.262  | 23  | < 10   | < 10  | 40.4   |
| 12/6/2017                                       | 120617_BSW | Basement - Southwest     | 0.058  | < 0.70   | <b>0.687</b> <sup>5</sup>                    | 2.4                             | < 0.90                               | 1.1                                 | < 0.90                            | < 0.262  | 12  | < 10   | < 10  | 27.6   |
| 12/6/2017                                       | 120617_BC  | Basement - Central       | 0.062  | < 0.70   | <b>0.799</b> <sup>5</sup>                    | 3.1                             | < 0.90                               | 1.4                                 | < 0.90                            | < 0.262  | 25  | < 10   | < 10  | 41.7   |
| 12/6/2017                                       | 120617_1SE | First Floor - Southeast  | 0.053  | < 0.70   | <b>0.837</b> <sup>5</sup>                    | 3.8                             | < 0.90                               | 1.7                                 | < 0.90                            | < 0.262  | 29  | < 10   | < 10  | 46.7   |
| 12/6/2017                                       | 120617_1C  | First Floor - Central    | 0.060  | < 0.70   | <b>1.12</b> <sup>5</sup>                     | 5.8                             | < 0.90                               | 2.7                                 | < 0.90                            | < 0.262  | 48  | < 10   | < 10  | 69.0   |
| 12/6/2017                                       | 120617_2SE | Second Floor - Southeast | 0.049  | < 0.70   | <b>1.23</b> <sup>5</sup>                     | 6.4                             | < 0.90                               | 2.8                                 | < 0.90                            | < 0.262  | 65  | < 10   | < 10  | 86.8   |
| <b>Project Action Levels (µg/m<sup>3</sup>)</b> |            |                          | <b>0.083</b> <sup>2</sup>                          | <b>9.6</b> <sup>2</sup>                            | <b>0.32</b> <sup>2</sup>                     | <b>2,290</b> <sup>2</sup>       | <b>460</b> <sup>2</sup>              | <b>46</b> <sup>2</sup>              | <b>46</b> <sup>2</sup>            | <b>1.4</b> <sup>2</sup>                          | <b>No CLARC criteria available</b>              |  |   | <b>1,346</b> <sup>3</sup>                      |

NOTES:

< denotes compounds not detected at concentrations exceeding laboratory-reported detection limits (RDLs).

<sup>1</sup> Laboratory RDLs for these compounds were attained using TO-15 SIM analysis to lower the detection limits below CLARC criteria.

<sup>2</sup> CLARC Method B values for protection of all populations.

<sup>3</sup> Risk-based cleanup level established for Town of Skykomish and private property during this project by the Washington State Department of Ecology. Project action levels are defined in Addendum No. 3 to 2010 Compliance Monitoring Plan Update dated February 17, 2015, prepared by Farallon Consulting, L.L.C.

<sup>4</sup> Total APH is derived by summing all individual compounds and ranges, excluding 1,3-butadiene. Compounds not detected at concentrations exceeding the laboratory RDL are added at half of the RDL.

<sup>5</sup> Benzene is included as part of the analysis for total APH, although benzene is not expected as a constituent of concern.

<sup>6</sup> Benzene reported by APH Method, as the TO-15 SIM analysis had a failing internal standard associated with benzene, and the detected concentrations were sufficient that the TO-15 SIM analysis was not needed.

<sup>7</sup> Action level exceedance was attributed to School maintenance/cleaning activities.

Measured values in **bold** typeface exceed project action levels.

APH = air-phase petroleum hydrocarbons

CLARC = Washington State Department of Ecology Cleanup Levels and Risk Calculations

µg/m<sup>3</sup> = micrograms per cubic meter

SIM = Selective Ion Monitoring

**Table 8**  
**Soil Vapor Extraction Operational Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date                                  | Soil Vapor Extraction Air Flow, Vacuum, and Petroleum Hydrocarbon Removal Data |                               |                               |                               |                                       |   |                           |                                      |   |
|---------------------------------------|--|-------------------------------|-------------------------------|-------------------------------|---------------------------------------|---|---------------------------|--------------------------------------|---|
|                                       | SVE-1,2<br>FLOW/FE301<br>(scfm)  | SVE-3<br>FLOW/FE302<br>(scfm) | SVE-4<br>FLOW/FE303<br>(scfm) | SVE-5<br>FLOW/FE304<br>(scfm) | SVE-6<br>HORZ<br>FLOW/FE305<br>(scfm) | System Total<br>Air Flow Rate<br>(scfm) | System<br>Vacuum<br>(IWC) | Total<br>Benzene<br>Removal<br>(lbs) | Total APH<br>Removal (lbs) <sup>3</sup> |
| 6/29/2017 <sup>1</sup>                | 82.14  | 141.21                        | 181.21                        | 115.2                         | 132.1                                 | 651.86                                  | 23                        | 0.00084                              | 0.6                                     |
| 7/27/2017 <sup>1</sup>                | 67.32  | 127.09                        | 162.51                        | 134.92                        | 145.69                                | 637.53                                  | 28                        | 0.00115                              | 3.7                                     |
| 8/23/2017 <sup>1</sup>                | 92.73  | 107.71                        | 138.4                         | 116.85                        | 122.23                                | 577.92                                  | 26                        | 0.00071                              | 9.6                                     |
| 9/21/2017 <sup>1</sup>                | 45.09  | 128.84                        | 158.74                        | 138.11                        | 143.63                                | 614.41                                  | 26                        | 0.00070                              | 9.2                                     |
| 10/27/2017 <sup>2</sup>               | >99  | >99                           | >99                           | >99                           | >99                                   | >495                                    | 27                        | 0.00142                              | 3.9                                     |
| <b>Total for 2017</b>                 | NA   | NA                            | NA                            | NA                            | NA                                    | NA                                      | NA                        | 0.00481                              | 27.1                                    |
| <b>PSCAA Annual Limit<sup>4</sup></b> | NA   | NA                            | NA                            | NA                            | NA                                    | NA                                      | NA                        | <b>15</b>                            | <b>1,000</b>                            |

**NOTES:**

<sup>1</sup>Flow measurements collected manually using Dwyer 477AV Handheld Digital Manometer.

<sup>2</sup>Flow measurements collected using Dwyer MS2 Magnesense II Differential Pressure Transmitter.

$$^3 \text{ Total APH Removal} = \frac{\text{Avg Concentration} * \text{Avg System Flow} * 1440 \frac{\text{min}}{\text{day}} * \text{Days}}{453600000 \frac{\text{ug}}{\text{lb}} * 35.31 \frac{\text{ft}^3}{\text{m}^3}}$$

<sup>4</sup>PSCAA Regulation I. 6.03(c)(94) requires that gas or odor control be installed for any soil and groundwater remediation projects that emit >15 pounds per year of benzene or >1,000 pounds per year of toxic air contaminants. Total APH calculated as a summation of applicable total aromatic compounds, which include benzene.

APH = air-phase petroleum hydrocarbons

ft<sup>3</sup> = cubic feet

IWC = inches of water column

lb = pound

lbs = pounds

m<sup>3</sup> = cubic meter

ug = micrograms

min = minutes

NA = not applicable

PSCAA = Puget Sound Clean Air Agency

scfm = standard cubic feet per minute

SVE = soil vapor extraction

**Table 9**  
**SVE System Influent Sampling Results - Air-Phase Petroleum Hydrocarbons**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Sample No.  | Sample Date | 1,3-Butadiene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Methyl tert<br>butyl ether<br>(µg/m <sup>3</sup> ) | Benzene <sup>1,2</sup><br>(µg/m <sup>3</sup> ) | Toluene<br>(µg/m <sup>3</sup> ) | Ethylbenzene<br>(µg/m <sup>3</sup> ) | Xylene, m-p<br>(µg/m <sup>3</sup> ) | Xylene, o<br>(µg/m <sup>3</sup> ) | Naphthalene <sup>1</sup><br>(µg/m <sup>3</sup> ) | Aliphatics, C5<br>to C8<br>(µg/m <sup>3</sup> ) | Aliphatics, C9<br>to C12<br>(µg/m <sup>3</sup> ) | Aromatics,<br>C9 to C10<br>(µg/m <sup>3</sup> ) | Total APH <sup>3</sup><br>(µg/m <sup>3</sup> ) |
|---|-------------|--|--|--|---------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--|---|--|---|--|
| SYSTEM_062917   | 6/29/2017   | < 0.044  | < 0.70   | 0.649  | 4.5                             | < 0.90                               | 3.0                                 | 1.0                               | 0.461  | 98  | 380  | < 10  | 493.4  |
| SYSTEM_INF_072717   | 7/27/2017   | < 0.044  | < 0.70   | 0.767  | 4.2                             | < 0.90                               | 2.0                                 | < 0.90                            | 1.45   | 550   | 3,600  | < 10  | 4,165  |
| SYSTEM_INF_082317   | 8/23/2017   | < 0.044  | < 0.70   | < 0.319  | 1.3                             | < 0.90                               | 1.3                                 | < 0.90                            | 0.446  | 1,100   | <b>8,000</b>                                     | < 10  | 9,109  |
| SYSTEM_INF_091417   | 9/14/2017   | < 0.044  | < 0.70   | 0.725  | 5.4                             | < 0.90                               | 2.9                                 | 1.0                               | 0.435  | 570   | 2,300  | < 10  | 2,886  |
| SYSTEM_INF_102617   | 10/26/2017  | < 0.044  | < 0.70   | 0.700  | 5.0                             | < 0.90                               | 2.9                                 | 0.97                              | 0.299  | 32  | 1,000  | < 10  | 1,048  |
| <b>Project Action Levels (µg/m<sup>3</sup>)</b>                                       |             | 0.083 <sup>4</sup>                                 | 9.6 <sup>4</sup>                                   | 0.32 <sup>4</sup>                              | 2,290 <sup>4</sup>              | 460 <sup>4</sup>                     | 46 <sup>4</sup>                     | 46 <sup>4</sup>                   | 1.4 <sup>4</sup>                                 | No CLARC criteria available                     |  |   | 1,346 <sup>5</sup>                             |
| <b>MTCA Method B Sub-Slab Soil Gas Screening Level (µg/m<sup>3</sup>)<sup>6</sup></b> |             | <b>2.78</b>  | <b>321</b>   | <b>10.7</b>                                    | <b>76,200</b>                   | <b>15,200</b>                        | <b>1,520</b>                        | <b>1,520</b>                      | <b>2.45</b>                                      | <b>90,000</b>                                   | <b>4,700</b>                                     | <b>6,000</b>                                    | <b>NE</b>                                      |

**NOTES:**

< indicates compounds not detected at concentrations exceeding laboratory-reported detection limits (RDLs).

Measured values in **bold** typeface exceed the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method B Sub-Slab Soil Gas Screening Level.

<sup>1</sup>Laboratory RDLs for these compounds were attained using TO-15 SIM analysis to lower the detection limits below CLARC criteria.

<sup>2</sup>Benzene is included as part of the analysis for total APH, although benzene is not a primary contaminant of concern.

<sup>3</sup>Total APH is derived by summing all individual compounds and ranges, excluding 1,3-butadiene. Compounds not detected at concentrations exceeding the laboratory RDL are added at half of the RDL.

<sup>4</sup>CLARC Method B values for protection of all populations.

<sup>5</sup>Risk-based cleanup level established for Town of Skykomish and private property during this project by the Washington State Department of Ecology.

<sup>6</sup>MTCA Method B Cleanup and Screening Levels, Table B-1 of Appendix B of the Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Revised February 2016.

APH = air-phase petroleum hydrocarbons

CLARC = Washington State Department of Ecology Cleanup Levels and Risk Calculations

µg/m<sup>3</sup> = micrograms per cubic meter

NE = not established

SIM = Selective Ion Monitoring

SVE = soil vapor extraction

**Table 10**  
**Process Water Sampling Results - Total Petroleum Hydrocarbons**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Sample Date                                   | DRO (µg/l) <sup>1</sup> |     |     | ORO (µg/l) <sup>1</sup> |     |       | Calculated NWTPH-Dx <sup>2</sup> (µg/l) | DRO (µg/l) <sup>1</sup> |     |     | ORO (µg/l) <sup>1</sup> |     |       | Calculated NWTPH-Dx <sup>2</sup> (µg/l) | DRO (µg/l) <sup>1</sup> |     |     | ORO (µg/l) <sup>1</sup> |     |     | Calculated NWTPH-Dx <sup>2</sup> (µg/l) | DRO (µg/l) <sup>1</sup> |     |     | ORO (µg/l) <sup>1</sup> |            |       | Calculated NWTPH-Dx <sup>2</sup> (µg/l) |
|---|-------------------------|-----|-----|-------------------------|-----|-------|---|-------------------------|-----|-----|-------------------------|-----|-------|---|-------------------------|-----|-----|-------------------------|-----|-----|---|-------------------------|-----|-----|-------------------------|------------|-------|---|
|   | Result                  | MDL | MRL | Result                  | MDL | MRL   |   | Result                  | MDL | MRL | Result                  | MDL | MRL   |   | Result                  | MDL | MRL | Result                  | MDL | MRL |   | Result                  | MDL | MRL | Result                  | MDL        | MRL   |   |
|   | LEAD VESSEL INFLUENT    |     |     |                         |     |       |   | MID VESSEL INFLUENT     |     |     |                         |     |       |   | LAG VESSEL INFLUENT     |     |     |                         |     |     |   | LAG VESSEL EFFLUENT     |     |     |                         |            |       |   |
| 6/8/2017                                      | 1,400                   | 15  | 110 | 1,400                   | 9.8 | 250   | 2,800                                   | —                       | —   | —   | —                       | —   | —     | —                                       | 240                     | 14  | 110 | < 250                   | 9.6 | 250 | 245                                     | < 110                   | 14  | 110 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 6/14/2017                                     | 1,200                   | 15  | 110 | 660                     | 9.9 | 250   | 1,860                                   | —                       | —   | —   | —                       | —   | —     | —                                       | 250                     | 14  | 110 | < 240                   | 9.4 | 240 | 255                                     | < 110                   | 14  | 110 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 6/22/2017                                     | 1,100                   | 15  | 110 | 730                     | 9.8 | 250   | 1,830                                   | —                       | —   | —   | —                       | —   | —     | —                                       | 690                     | 14  | 110 | 330                     | 9.4 | 240 | 1,020                                   | < 110                   | 14  | 110 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 6/29/2017                                     | 1,100                   | 15  | 110 | 860                     | 10  | 250   | 1,960                                   | —                       | —   | —   | —                       | —   | —     | —                                       | 420                     | 15  | 110 | < 250                   | 9.8 | 250 | 425                                     | < 110                   | 14  | 110 | < 250                   | 9.7        | 250   | < 11.8                                  |
| 7/6/2017                                      | 9,600 J                 | 14  | 110 | 12,000                  | 47  | 1,200 | 21,600                                  | —                       | —   | —   | —                       | —   | —     | —                                       | 1,900                   | 14  | 110 | 2,700                   | 9.4 | 240 | 4,600                                   | 1,200                   | 14  | 110 | 1,800                   | 9.4        | 240   | <b>3,000</b>                            |
| 7/14/2017                                     | 6,900 J                 | 14  | 100 | 8,700 J                 | 9.3 | 240   | 15,600                                  | —                       | —   | —   | —                       | —   | —     | —                                       | 730                     | 14  | 100 | 860                     | 9.3 | 240 | 1,590                                   | 160                     | 14  | 100 | < 240                   | 9.2        | 240   | 165                                     |
| 7/21/2017                                     | 2,800                   | 14  | 110 | 3,100                   | 9.5 | 240   | 5,900                                   | —                       | —   | —   | —                       | —   | —     | —                                       | < 110                   | 14  | 110 | < 240                   | 9.4 | 240 | < 11.7                                  | 120                     | 14  | 110 | < 240                   | 9.4        | 240   | 125                                     |
| 7/27/2017                                     | 590                     | 15  | 110 | 360                     | 9.8 | 250   | 950                                     | —                       | —   | —   | —                       | —   | —     | —                                       | 140                     | 14  | 110 | < 240                   | 9.4 | 240 | 145                                     | < 110                   | 14  | 110 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 8/3/2017                                      | 1,000                   | 14  | 110 | 1,100                   | 19  | 480   | 2,100                                   | —                       | —   | —   | —                       | —   | —     | —                                       | 180                     | 14  | 110 | < 240                   | 9.4 | 240 | 185                                     | < 110                   | 14  | 110 | < 240                   | 9.5        | 240   | < 11.7                                  |
| 8/10/2017 <sup>3</sup>                        | 2,300                   | 7.3 | 550 | 2,500                   | 49  | 1,300 | 4,800                                   | 620                     | 14  | 110 | < 240                   | 9.6 | 240   | 625                                     | 140                     | 14  | 110 | < 240                   | 9.5 | 240 | 145                                     | < 110                   | 15  | 110 | < 250                   | 9.9        | 250   | < 12.4                                  |
| 8/17/2017                                     | 3,300 J                 | 70  | 530 | 3,100 J                 | 47  | 1,200 | 6,400                                   | 590 J                   | 14  | 110 | < 240 UJ                | 9.4 | 240   | 595                                     | 160 J                   | 14  | 110 | < 240 UJ                | 9.4 | 240 | 165                                     | < 110 UJ                | 14  | 110 | < 240 UJ                | 9.4        | 240   | < 11.7                                  |
| 8/23/2017                                     | 210 J                   | 14  | 110 | 240 J                   | 9.4 | 240   | 450                                     | 880                     | 14  | 110 | 530                     | 9.4 | 240   | 1,410                                   | 250                     | 14  | 110 | < 240                   | 9.4 | 240 | 255                                     | < 110                   | 14  | 110 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 8/30/2017                                     | 710                     | 14  | 110 | 370                     | 9.4 | 240   | 1,080                                   | 680                     | 14  | 110 | 250                     | 9.4 | 240   | 930                                     | 310                     | 14  | 110 | < 240                   | 9.4 | 240 | 315                                     | < 110                   | 14  | 110 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 9/7/2017                                      | 2,400                   | 70  | 530 | 3,300                   | 47  | 1,200 | 5,700                                   | 620                     | 14  | 110 | 290                     | 9.4 | 240   | 910                                     | 330                     | 14  | 110 | < 240                   | 9.4 | 240 | 335                                     | < 110                   | 14  | 110 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 9/14/2017                                     | 2,500                   | 70  | 530 | 2,700                   | 47  | 1,200 | 5,200                                   | 1,400                   | 14  | 110 | 640                     | 9.4 | 240   | 2,040                                   | 520                     | 14  | 110 | 250                     | 9.4 | 240 | 770                                     | 970                     | 70  | 530 | 1,900                   | 47         | 1,200 | <b>2,870</b>                            |
| 9/21/2017                                     | 2,000                   | 14  | 100 | 780                     | 9.4 | 240   | 2,780                                   | 1,800                   | 15  | 100 | 600                     | 9.3 | 240   | 2,400                                   | 1,300                   | 16  | 100 | 440                     | 9.4 | 240 | 1,740                                   | 520                     | 17  | 110 | < 240                   | 9.4        | 240   | <b>525</b>                              |
| 9/28/2017                                     | 750                     | 14  | 110 | 370                     | 9.5 | 240   | 1,120                                   | 780                     | 14  | 100 | 290                     | 9.4 | 240   | 1,070                                   | 500                     | 14  | 100 | < 240                   | 9.3 | 240 | 505                                     | 290                     | 14  | 110 | < 240                   | 9.5        | 240   | 295                                     |
| 10/5/2017                                     | 1,200                   | 14  | 100 | 540                     | 9.4 | 240   | 1,740                                   | 1,200                   | 14  | 100 | 450                     | 9.3 | 240   | 1,650                                   | 660                     | 14  | 100 | 250                     | 9.3 | 240 | 910                                     | < 100                   | 14  | 100 | < 240                   | 9.4        | 240   | < 11.7                                  |
| 10/12/2017                                    | 1,000                   | 14  | 100 | 390                     | 9.3 | 240   | 1,390                                   | 1,100                   | 14  | 100 | 350                     | 9.3 | 240   | 1,450                                   | 600                     | 14  | 100 | < 240                   | 9.3 | 240 | 605                                     | < 100                   | 14  | 100 | < 240                   | 9.3        | 240   | < 11.6                                  |
| 10/20/2017                                    | 2,000 J                 | 14  | 100 | 1,400 J                 | 9.3 | 240   | 3,400                                   | 2,100 J                 | 14  | 100 | 1,400 J                 | 9.3 | 240   | 3,500                                   | 1,600 J                 | 14  | 110 | 1,200 J                 | 9.4 | 240 | 2,800                                   | 670 J                   | 14  | 110 | 510 J                   | 9.4        | 240   | <b>1,180</b>                            |
| 10/26/2017                                    | 1,700                   | 69  | 520 | 1,300                   | 47  | 1,200 | 3,000                                   | 1,600                   | 70  | 520 | 1,200                   | 47  | 1,200 | 2,800                                   | 1,400                   | 28  | 210 | 1,000                   | 19  | 480 | 2,400                                   | 700                     | 14  | 100 | 800                     | 9.3        | 240   | <b>1,500</b>                            |
| <b>Site Remediation Level for Groundwater</b> |                         |     |     |                         |     |       |   |                         |     |     |                         |     |       |   |                         |     |     |                         |     |     |   |                         |     |     |                         | <b>477</b> |       |   |

**NOTES:**

Measured values in **bold** typeface exceed the Site-specific 477 µg/l TPH remediation level.  
 < denotes analyte not detected at or exceeding the laboratory method detection limit listed.

<sup>1</sup>Analyzed by Northwest Method NWTPH-Dx.

<sup>2</sup>The total NWTPH-Dx calculation uses one-half of the MDL for non-detectable concentrations to derive the sum of the DRO and ORO results obtained using the NWTPH-Dx analytical method. If either the DRO or the ORO concentration was reported as a detection, the calculated total NWTPH-Dx concentration is indicated as a detection. If both DRO and ORO concentrations were reported as not detected, the calculated total NWTPH-Dx concentration is indicated as a non-detection. In some instances, data validation resulted in additional data qualification and/or updates to laboratory data. If, for example, data validation caused an update to a non-detection result value because of laboratory blank contamination and the data validator concluded that the result should be a non-detection instead of detection, the laboratory method detection limit and reporting limit were updated to match the validated non-detection result value.

<sup>3</sup>Treatment train was modified on August 3, 2017. An organoclay treatment vessel was added upstream of the existing lead granular activated carbon (GAC) vessel. As of August 3, 2017, the modified treatment train includes a lead media vessel (organoclay), mid media vessel (lead GAC), and lag media vessel (lag GAC).

DRO = total petroleum hydrocarbons as diesel-range organics  
 MDL = laboratory-specified method detection limit  
 µg/l = micrograms per liter  
 MRL = laboratory method reporting limit  
 ORO = total petroleum hydrocarbons as oil-range organics  
 TPH = total petroleum hydrocarbons  
 UJ = The analyte was not detected and the reporting limit is an estimate.

**Table 11**  
**2017 NAPL Recovery Volumes and Dissolved-Phase NWTPH-Dx Removal**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date       | Week Number | NAPL Volume Recovered (gallons) | Cumulative NAPL Volume Recovered (gallons) | Dissolved-Phase NWTPH-Dx Removed by GAC Treatment (lbs) <sup>1</sup> | Cumulative Dissolved-Phase NWTPH-Dx Removed by GAC Treatment (lbs) |
|------------|-------------|---------------------------------|--|--|--|
| 6/15/2017  | 20          | 0.0                             | 0.0  | 0.8  | 0.8  |
| 6/22/2017  | 21          | 0.0                             | 0.0  | 8.4  | 9.2  |
| 6/29/2017  | 22          | 2.8                             | 2.8  | 8.4  | 17.6   |
| 7/6/2017   | 23          | 8.5                             | 11.3                                       | 43.8   | 61.4   |
| 7/13/2017  | 24          | 10.3                            | 21.6                                       | 74.9   | 136.3  |
| 7/20/2017  | 25          | 6.1                             | 27.7                                       | 45.2   | 181.5  |
| 7/27/2017  | 26          | 7.9                             | 35.6                                       | 15.1   | 196.6  |
| 8/3/2017   | 27          | 10.2                            | 45.8                                       | 6.4  | 203.0  |
| 8/10/2017  | 28          | 4.5                             | 50.3                                       | 10.1   | 213.1  |
| 8/17/2017  | 29          | 3.4                             | 53.7                                       | 19.5   | 232.6  |
| 8/24/2017  | 30          | 0.0                             | 53.7                                       | 5.6  | 238.2  |
| 8/31/2017  | 31          | 0.9                             | 54.6                                       | 3.8  | 242.0  |
| 9/7/2017   | 32          | 0.0                             | 54.6                                       | 10.7   | 252.7  |
| 9/14/2017  | 33          | 0.0                             | 54.6                                       | 11.1   | 263.8  |
| 9/21/2017  | 34          | 0.0                             | 54.6                                       | 6.0  | 269.8  |
| 9/28/2017  | 35          | 3.5 <sup>2</sup>                | 58.1                                       | 5.0  | 274.8  |
| 10/5/2017  | 36          | 0.0                             | 58.1                                       | 4.3  | 279.1  |
| 10/12/2017 | 37          | 0.0                             | 58.1                                       | 4.9  | 284.0  |
| 10/19/2017 | 38          | 0.0                             | 58.1                                       | 7.2  | 291.2  |
| 10/26/2017 | 39          | 0.0                             | 58.1                                       | 5.7  | 296.9  |

**NOTES:**

<sup>1</sup> Dissolved-phase NWTPH-Dx removal via GAC treatment is calculated using the following formula:  
(Average Lead Vessel Influent Concentration – Average Lag Vessel Effluent Concentration)\*(Total Weekly Flow)\*3.78/453,592,000;  
Lead and Lag Vessel Influent and Effluent Concentrations are from Table 10; Weekly Flow is from Table 14.

Example for Week 21:

$$\{[(1,860+1,830)/2]-[(11.7/2+11.7/2)/2]\} \mu\text{g/l} * 546,809 \text{ gallons} * 3.78/453,598,000 = 8.4 \text{ lbs}$$

<sup>2</sup> NAPL recovered during Week 35 resulted from chemical/physical cleaning of recovery wells RW-1, RW-5, and RW-9 on September 19, 2017.

GAC = granular activated carbon  
lbs = pounds  
μg/l = micrograms per liter  
NAPL = nonaqueous-phase liquid

**Table 12**  
**2017 Groundwater Elevation Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date      | Groundwater Monitoring Well |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | Treatment Area Average <sup>1</sup> |        |
|-----------|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|--------|
|           | GWM-1                       | GWM-2  | GWM-3  | GWM-4  | GWM-5  | GWM-6  | GWM-7  | GWM-8  | GWM-9  | GWM-10 | GWM-11 | GWM-12 | GWM-13 | GWM-14 | GWM-15 | GWM-16 | GWM-17 | GWM-18 | GWM-19 | GWM-20 |                                     | GWM-21 |
| 6/22/2017 | 916.78                      | 916.76 | 921.59 | 918.95 | 921.80 | 917.48 | 917.72 | 917.50 | 916.84 | 917.66 | 918.57 | 917.70 | 918.44 | 918.48 | 918.44 | 918.39 | 916.74 | 917.97 | 916.33 | 917.10 | 918.29                              | 917.8  |
| 6/23/2017 | 916.66                      | 916.67 | 921.59 | 918.95 | 921.80 | 917.27 | 917.35 | 917.39 | 916.71 | 917.64 | 918.54 | 917.67 | 918.58 | 918.42 | 918.33 | 918.38 | 916.79 | 917.89 | 916.18 | 917.01 | 918.23                              | 917.8  |
| 6/24/2017 | 916.63                      | 916.70 | 921.59 | 918.95 | 921.80 | 917.18 | 917.32 | 917.32 | 916.63 | 917.59 | 918.42 | 917.62 | 918.45 | 918.33 | 918.18 | 918.29 | 916.72 | 917.81 | 916.09 | 916.92 | 918.18                              | 917.7  |
| 6/25/2017 | 916.70                      | 916.76 | 921.59 | 918.95 | 921.80 | 917.12 | 917.36 | 917.19 | 916.50 | 917.48 | 918.27 | 917.51 | 918.29 | 918.18 | 918.00 | 918.15 | 916.60 | 917.69 | 915.98 | 916.81 | 918.06                              | 917.5  |
| 6/26/2017 | 916.63                      | 916.71 | 921.59 | 918.95 | 921.80 | 917.10 | 917.41 | 917.16 | 916.43 | 917.47 | 918.29 | 917.51 | 918.32 | 918.18 | 918.07 | 918.16 | 916.52 | 917.72 | 915.89 | 916.73 | 918.05                              | 917.6  |
| 6/27/2017 | 916.71                      | 916.73 | 921.59 | 918.95 | 921.80 | 917.12 | 917.44 | 917.25 | 916.56 | 917.43 | 918.21 | 917.46 | 918.26 | 918.20 | 918.04 | 918.17 | 916.65 | 917.70 | 916.04 | 916.86 | 918.02                              | 917.6  |
| 6/28/2017 | 916.42                      | 916.57 | 921.59 | 918.95 | 921.80 | 917.16 | 917.45 | 917.12 | 916.31 | 917.31 | 918.20 | 917.34 | 918.27 | 918.15 | 918.09 | 918.09 | 916.50 | 917.59 | 915.81 | 916.65 | 917.90                              | 917.5  |
| 6/29/2017 | 916.30                      | 916.47 | 921.59 | 918.95 | 921.80 | 917.18 | 917.33 | 917.11 | 916.26 | 917.29 | 918.13 | 917.33 | 918.19 | 918.18 | 918.10 | 918.06 | 916.49 | 917.56 | 915.75 | 916.60 | 917.88                              | 917.5  |
| 6/30/2017 | 916.23                      | 916.50 | 921.59 | 918.95 | 921.80 | 917.16 | 917.28 | 917.04 | 916.20 | 917.18 | 917.94 | 917.22 | 917.99 | 918.08 | 917.94 | 917.93 | 916.43 | 917.43 | 915.69 | 916.54 | 917.76                              | 917.4  |
| 7/1/2017  | 916.20                      | 916.51 | 921.59 | 918.95 | 921.80 | 917.13 | 917.25 | 917.08 | 916.23 | 917.17 | 917.93 | 917.21 | 917.98 | 918.08 | 917.92 | 917.94 | 916.46 | 917.44 | 915.72 | 916.57 | 917.77                              | 917.4  |
| 7/2/2017  | 916.12                      | 916.49 | 921.59 | 918.95 | 921.80 | 917.09 | 917.19 | 917.07 | 916.21 | 917.12 | 917.87 | 917.16 | 917.92 | 918.06 | 917.87 | 917.89 | 916.45 | 917.40 | 915.71 | 916.56 | 917.71                              | 917.4  |
| 7/3/2017  | 916.22                      | 916.49 | 921.59 | 918.95 | 921.80 | 917.04 | 917.11 | 917.14 | 916.34 | 917.14 | 917.83 | 917.18 | 917.86 | 918.10 | 917.85 | 917.92 | 916.53 | 917.42 | 915.81 | 916.65 | 917.73                              | 917.3  |
| 7/4/2017  | 916.15                      | 916.50 | 921.59 | 918.95 | 921.80 | 916.98 | 917.05 | 917.02 | 916.27 | 916.98 | 917.64 | 917.02 | 917.65 | 917.97 | 917.67 | 917.77 | 916.45 | 917.27 | 915.75 | 916.59 | 917.57                              | 917.2  |
| 7/5/2017  | 916.08                      | 916.39 | 921.59 | 918.95 | 921.80 | 917.04 | 917.36 | 916.80 | 915.98 | 916.83 | 917.54 | 916.87 | 917.55 | 917.88 | 917.55 | 917.64 | 916.31 | 917.13 | 915.52 | 916.39 | 917.42                              | 917.2  |
| 7/6/2017  | 915.85                      | 916.33 | 921.59 | 918.95 | 921.80 | 917.44 | 917.72 | 916.77 | 915.78 | 916.89 | 917.62 | 916.93 | 917.65 | 917.95 | 917.64 | 917.69 | 916.36 | 917.18 | 915.40 | 916.28 | 917.48                              | 917.3  |
| 7/7/2017  | 915.77                      | 916.35 | 921.59 | 918.95 | 921.80 | 917.39 | 917.63 | 916.82 | 915.72 | 916.94 | 917.68 | 916.97 | 917.69 | 917.99 | 917.68 | 917.73 | 916.44 | 917.22 | 915.41 | 916.30 | 917.53                              | 917.3  |
| 7/8/2017  | 915.72                      | 916.36 | 921.59 | 918.95 | 921.80 | 917.35 | 917.59 | 916.74 | 915.61 | 916.85 | 917.60 | 916.89 | 917.61 | 917.92 | 917.59 | 917.65 | 916.38 | 917.14 | 915.33 | 916.23 | 917.43                              | 917.3  |
| 7/9/2017  | 915.98                      | 916.40 | 921.59 | 918.95 | 921.80 | 917.29 | 917.44 | 916.76 | 915.82 | 916.76 | 917.47 | 916.80 | 917.45 | 917.87 | 917.44 | 917.59 | 916.37 | 917.07 | 915.41 | 916.29 | 917.35                              | 917.2  |
| 7/10/2017 | 915.92                      | 916.39 | 921.59 | 918.95 | 921.80 | 917.21 | 917.47 | 916.70 | 915.78 | 916.66 | 917.34 | 916.70 | 917.37 | 917.77 | 917.35 | 917.48 | 916.34 | 916.97 | 915.47 | 916.36 | 917.26                              | 917.1  |
| 7/11/2017 | 915.40                      | 916.26 | 921.59 | 918.95 | 921.80 | 917.17 | 917.39 | 916.58 | 915.17 | 916.68 | 917.49 | 916.72 | 917.53 | 917.82 | 917.51 | 917.51 | 916.26 | 916.99 | 915.19 | 916.13 | 917.27                              | 917.1  |
| 7/12/2017 | 915.36                      | 916.23 | 921.59 | 918.95 | 921.80 | 917.11 | 917.31 | 916.47 | 914.98 | 916.57 | 917.37 | 916.61 | 917.41 | 917.73 | 917.42 | 917.39 | 916.16 | 916.89 | 915.11 | 916.06 | 917.16                              | 917.0  |
| 7/13/2017 | 915.41                      | 916.21 | 921.59 | 918.95 | 921.80 | 917.07 | 917.35 | 916.54 | 915.17 | 916.59 | 917.39 | 916.63 | 917.47 | 917.78 | 917.47 | 917.39 | 916.22 | 916.93 | 915.20 | 916.15 | 917.20                              | 917.1  |
| 7/14/2017 | 915.38                      | 916.20 | 921.59 | 918.95 | 921.80 | 917.03 | 917.33 | 916.55 | 915.10 | 916.58 | 917.42 | 916.63 | 917.50 | 917.82 | 917.54 | 917.40 | 916.25 | 916.92 | 915.21 | 916.18 | 917.18                              | 917.1  |
| 7/15/2017 | 915.44                      | 916.16 | 921.59 | 918.95 | 921.80 | 916.96 | 917.19 | 916.54 | 915.46 | 916.57 | 917.36 | 916.62 | 917.44 | 917.84 | 917.50 | 917.40 | 916.25 | 916.92 | 915.24 | 916.23 | 917.17                              | 917.0  |
| 7/16/2017 | 915.38                      | 916.10 | 921.59 | 918.95 | 921.80 | 916.89 | 917.17 | 916.44 | 915.41 | 916.61 | 917.43 | 916.65 | 917.50 | 917.88 | 917.58 | 917.44 | 916.26 | 916.95 | 915.23 | 916.27 | 917.20                              | 917.0  |
| 7/17/2017 | 915.37                      | 916.05 | 921.59 | 918.95 | 921.80 | 916.84 | 917.23 | 916.12 | 915.15 | 916.41 | 917.23 | 916.46 | 917.29 | 917.69 | 917.29 | 917.26 | 916.06 | 916.77 | 915.05 | 916.11 | 917.01                              | 916.9  |
| 7/18/2017 | 915.42                      | 915.96 | 921.59 | 918.95 | 921.80 | 916.80 | 917.07 | 915.99 | 915.22 | 916.30 | 917.14 | 916.35 | 917.18 | 917.60 | 917.10 | 917.15 | 915.93 | 916.66 | 914.96 | 916.05 | 916.90                              | 916.7  |
| 7/19/2017 | 915.43                      | 915.77 | 921.59 | 918.95 | 921.80 | 916.68 | 916.86 | 915.78 | 915.39 | 916.31 | 917.12 | 916.35 | 917.16 | 917.61 | 917.00 | 917.17 | 915.79 | 916.67 | 914.99 | 916.10 | 916.91                              | 916.6  |
| 7/20/2017 | 915.50                      | 915.85 | 921.59 | 918.95 | 921.80 | 916.59 | 917.14 | 916.07 | 915.53 | 916.34 | 917.08 | 916.38 | 917.09 | 917.65 | 916.78 | 917.21 | 915.89 | 916.71 | 915.05 | 916.16 | 916.94                              | 916.7  |
| 7/21/2017 | 915.75                      | 916.02 | 921.59 | 918.95 | 921.80 | 916.74 | 917.45 | 916.47 | 915.76 | 916.36 | 917.02 | 916.41 | 917.03 | 917.68 | 916.63 | 917.24 | 916.08 | 916.73 | 915.21 | 916.24 | 916.96                              | 916.8  |
| 7/22/2017 | 915.81                      | 916.04 | 921.59 | 918.95 | 921.80 | 916.84 | 917.38 | 916.51 | 915.83 | 916.35 | 917.01 | 916.40 | 917.02 | 917.67 | 916.63 | 917.23 | 916.10 | 916.72 | 915.30 | 916.26 | 916.95                              | 916.8  |
| 7/23/2017 | 915.82                      | 916.00 | 921.59 | 918.95 | 921.80 | 916.87 | 917.35 | 916.43 | 915.75 | 916.25 | 916.90 | 916.30 | 916.92 | 917.55 | 916.52 | 917.13 | 916.00 | 916.62 | 915.22 | 916.17 | 916.85                              | 916.7  |
| 7/24/2017 | 915.82                      | 915.95 | 921.59 | 918.95 | 921.80 | 916.89 | 917.33 | 916.36 | 915.69 | 916.17 | 916.83 | 916.23 | 916.84 | 917.48 | 916.44 | 917.07 | 915.94 | 916.56 | 915.17 | 916.12 | 916.77                              | 916.7  |
| 7/25/2017 | 915.76                      | 915.85 | 921.60 | 918.95 | 921.80 | 916.88 | 917.30 | 916.32 | 915.64 | 916.13 | 916.79 | 916.20 | 916.83 | 917.47 | 916.42 | 917.05 | 915.93 | 916.53 | 915.14 | 916.11 | 916.73                              | 916.6  |
| 7/26/2017 | 915.70                      | 915.99 | 921.60 | 918.95 | 921.80 | 916.85 | 917.19 | 916.32 | 915.62 | 916.14 | 916.82 | 916.22 | 916.85 | 917.48 | 916.43 | 917.07 | 915.95 | 916.54 | 915.13 | 916.13 | 916.74                              | 916.6  |
| 7/27/2017 | 915.60                      | 915.97 | 921.59 | 918.95 | 921.80 | 916.75 | 917.07 | 916.32 | 915.61 | 916.18 | 916.86 | 916.25 | 916.90 | 917.53 | 916.46 | 917.12 | 915.99 | 916.59 | 915.12 | 916.17 | 916.78                              | 916.6  |
| 7/28/2017 | 915.53                      | 915.96 | 921.59 | 918.95 | 921.80 | 916.68 | 917.05 | 916.25 | 915.56 | 916.13 | 916.81 | 916.20 | 916.85 | 917.49 | 916.40 | 917.08 | 915.95 | 916.54 | 915.05 | 916.13 | 916.73                              | 916.6  |
| 7/29/2017 | 915.44                      | 915.94 | 921.59 | 918.95 | 921.80 | 916.62 | 917.02 | 916.26 | 915.59 | 916.15 | 916.83 | 916.21 | 916.87 | 917.52 | 916.44 | 917.13 | 915.99 | 916.57 | 915.09 | 916.19 | 916.75                              | 916.6  |
| 7/30/2017 | 915.40                      | 915.92 | 921.59 | 918.95 | 921.80 | 916.59 | 917.01 | 916.28 | 915.66 | 916.23 | 916.92 | 916.30 | 916.97 | 917.62 | 916.53 | 917.23 | 916.10 | 916.67 | 915.20 | 916.28 | 916.83                              | 916.6  |
| 7/31/2017 | 915.37                      | 915.92 | 921.59 | 918.95 | 921.80 | 916.56 | 917.00 | 916.17 | 915.63 | 916.20 | 916.89 | 916.27 | 916.93 | 917.59 | 916.49 | 917.21 | 916.08 | 916.65 | 915.20 | 916.26 | 916.80                              | 916.6  |
| 8/1/2017  | 915.36                      | 915.87 | 921.59 | 918.95 | 921.80 | 916.54 | 917.00 | 916.07 | 915.41 | 916.06 | 916.74 | 916.12 | 916.80 | 917.45 | 916.37 | 917.09 | 915.97 | 916.51 | 915.08 | 916.13 | 916.66                              | 916.5  |
| 8/2/2017  | 915.36                      | 915.88 | 921.59 | 918.95 | 921.80 | 916.52 | 917.01 | 916.13 | 915.05 | 915.95 | 916.64 | 916.02 | 916.71 | 917.33 | 916.28 | 916.99 | 915.89 | 916.41 | 915.01 | 916.03 | 916.56                              | 916.5  |
| 8/3/2017  | 915.55                      | 915.91 | 921.59 | 918.95 | 921.80 | 916.50 | 916.92 | 916.12 | 915.18 | 915.87 | 916.58 | 915.94 | 916.62 | 917.22 | 916.20 | 916.89 | 915.82 | 916.32 | 914.91 | 915.96 | 916.47                              | 916.4  |
| 8/4/2017  | 916.49                      | 916.40 | 921.59 | 918.95 | 921.80 | 916.30 | 916.40 | 916.53 | 916.24 | 915.76 | 916.11 | 915.83 | 916.19 | 917.09 | 916.15 | 916.78 | 916.08 | 916.22 | 915.61 | 916.38 | 916.36                              | 916.3  |
| 8/5/2017  | 916.20                      | 916.31 | 921.59 | 918.95 | 921.80 | 916.12 | 916.69 | 916.45 | 916.06 | 915.75 | 916.12 | 915.81 | 916.24 | 917.10 | 916.16 | 916.80 | 916.05 | 916.23 | 915.53 | 916.35 | 916.36                              | 916.3  |
| 8/6/2017  | 915.36                      | 915.93 | 921.59 | 918.95 | 921.80 | 916.43 | 917.60 | 915.95 | 915.05 | 915.77 | 916.42 | 915.83 | 916.54 | 917.11 | 916.17 | 916.82 | 915.80 | 916.25 | 914.91 | 915.90 | 916.38                              |        |

**Table 12**  
**2017 Groundwater Elevation Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date      | Groundwater Monitoring Well |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | Treatment Area Average <sup>1</sup> |        |
|-----------|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|--------|
|           | GWM-1                       | GWM-2  | GWM-3  | GWM-4  | GWM-5  | GWM-6  | GWM-7  | GWM-8  | GWM-9  | GWM-10 | GWM-11 | GWM-12 | GWM-13 | GWM-14 | GWM-15 | GWM-16 | GWM-17 | GWM-18 | GWM-19 | GWM-20 |                                     | GWM-21 |
| 8/17/2017 | 915.36                      | 915.20 | 921.59 | 918.95 | 921.80 | 916.93 | 917.47 | 915.74 | 915.16 | 915.65 | 916.44 | 915.73 | 916.55 | 917.03 | 915.95 | 916.81 | 915.37 | 916.35 | 915.11 | 915.89 | 916.28                              | 916.4  |
| 8/18/2017 | 915.36                      | 915.20 | 921.59 | 918.95 | 921.80 | 916.94 | 917.46 | 915.74 | 915.17 | 915.65 | 916.43 | 915.73 | 916.55 | 917.01 | 915.94 | 916.80 | 915.36 | 916.35 | 915.11 | 915.88 | 916.27                              | 916.3  |
| 8/19/2017 | 915.36                      | 915.19 | 921.59 | 918.95 | 921.80 | 916.92 | 917.44 | 915.76 | 915.18 | 915.65 | 916.43 | 915.73 | 916.55 | 917.01 | 915.93 | 916.81 | 915.35 | 916.37 | 915.18 | 915.88 | 916.28                              | 916.3  |
| 8/20/2017 | 915.36                      | 915.18 | 921.59 | 918.95 | 921.80 | 916.90 | 917.43 | 915.73 | 915.12 | 915.61 | 916.39 | 915.69 | 916.53 | 916.97 | 915.88 | 916.77 | 915.29 | 916.35 | 915.16 | 915.85 | 916.24                              | 916.3  |
| 8/21/2017 | 915.36                      | 915.17 | 921.59 | 918.95 | 921.80 | 916.88 | 917.42 | 915.66 | 914.99 | 915.53 | 916.32 | 915.61 | 916.46 | 916.89 | 915.79 | 916.71 | 915.19 | 916.30 | 915.11 | 915.78 | 916.16                              | 916.2  |
| 8/22/2017 | 915.36                      | 915.17 | 921.59 | 918.95 | 921.80 | 916.86 | 917.41 | 915.55 | 914.86 | 915.41 | 916.19 | 915.49 | 916.35 | 916.77 | 915.66 | 916.59 | 915.04 | 916.20 | 915.01 | 915.66 | 916.04                              | 916.2  |
| 8/23/2017 | 915.36                      | 915.16 | 921.59 | 918.95 | 921.80 | 916.84 | 917.44 | 915.54 | 914.83 | 915.40 | 916.17 | 915.48 | 916.30 | 916.75 | 915.63 | 916.57 | 915.01 | 916.20 | 915.00 | 915.64 | 916.03                              | 916.1  |
| 8/24/2017 | 915.44                      | 915.12 | 921.59 | 918.95 | 921.80 | 916.76 | 917.26 | 915.72 | 915.16 | 915.43 | 916.15 | 915.51 | 916.30 | 916.77 | 915.58 | 916.60 | 914.89 | 916.25 | 915.06 | 915.74 | 916.07                              | 916.1  |
| 8/25/2017 | 915.48                      | 915.10 | 921.59 | 918.95 | 921.80 | 916.55 | 917.04 | 915.72 | 915.46 | 915.44 | 916.08 | 915.52 | 916.23 | 916.78 | 915.39 | 916.62 | 914.80 | 916.28 | 915.09 | 915.80 | 916.07                              | 916.0  |
| 8/26/2017 | 915.69                      | 915.11 | 921.59 | 918.95 | 921.80 | 916.23 | 916.75 | 916.06 | 915.72 | 915.48 | 916.04 | 915.56 | 916.16 | 916.83 | 915.31 | 916.67 | 914.87 | 916.36 | 915.19 | 915.96 | 916.11                              | 915.9  |
| 8/27/2017 | 915.81                      | 915.10 | 921.59 | 918.95 | 921.80 | 916.21 | 917.11 | 916.16 | 915.75 | 915.38 | 915.83 | 915.47 | 915.98 | 916.73 | 915.17 | 916.57 | 914.80 | 916.28 | 915.19 | 915.98 | 916.01                              | 915.9  |
| 8/28/2017 | 915.51                      | 915.10 | 921.59 | 918.95 | 921.80 | 916.46 | 917.56 | 915.71 | 915.08 | 915.23 | 915.70 | 915.31 | 915.90 | 916.56 | 915.15 | 916.41 | 914.66 | 916.13 | 914.98 | 915.70 | 915.85                              | 915.9  |
| 8/29/2017 | 915.36                      | 915.11 | 921.59 | 918.95 | 921.80 | 916.70 | 916.81 | 915.48 | 914.81 | 915.15 | 915.77 | 915.24 | 915.96 | 916.47 | 915.23 | 916.33 | 914.59 | 916.07 | 914.84 | 915.48 | 915.78                              | 915.8  |
| 8/30/2017 | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.73 | 915.35 | 915.49 | 915.09 | 915.25 | 915.90 | 915.34 | 916.01 | 916.56 | 915.13 | 916.42 | 914.70 | 916.18 | 914.98 | 915.59 | 915.88                              | 915.5  |
| 8/31/2017 | 915.36                      | 915.12 | 921.59 | 918.95 | 921.80 | 915.34 | 915.34 | 915.61 | 915.12 | 915.37 | 915.99 | 915.46 | 916.10 | 916.69 | 915.20 | 916.54 | 914.85 | 916.32 | 915.13 | 915.70 | 915.99                              | 915.5  |
| 9/1/2017  | 915.36                      | 915.15 | 921.59 | 918.95 | 921.80 | 915.29 | 915.36 | 915.64 | 915.06 | 915.37 | 915.97 | 915.46 | 916.09 | 916.68 | 915.18 | 916.54 | 914.86 | 916.33 | 915.13 | 915.70 | 915.98                              | 915.5  |
| 9/2/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.16 | 915.60 | 915.54 | 914.91 | 915.22 | 915.81 | 915.32 | 915.95 | 916.54 | 915.04 | 916.40 | 914.74 | 916.21 | 915.01 | 915.56 | 915.83                              | 915.4  |
| 9/3/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.12 | 915.69 | 915.56 | 914.93 | 915.23 | 915.81 | 915.33 | 915.96 | 916.55 | 915.07 | 916.42 | 914.76 | 916.23 | 915.04 | 915.58 | 915.84                              | 915.4  |
| 9/4/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.10 | 915.93 | 915.59 | 914.92 | 915.22 | 915.79 | 915.32 | 915.94 | 916.54 | 915.06 | 916.41 | 914.77 | 916.23 | 915.04 | 915.57 | 915.83                              | 915.5  |
| 9/5/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.08 | 916.10 | 915.55 | 914.87 | 915.14 | 915.68 | 915.23 | 915.86 | 916.45 | 914.98 | 916.32 | 914.69 | 916.16 | 914.96 | 915.49 | 915.74                              | 915.4  |
| 9/6/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.04 | 916.42 | 915.56 | 914.86 | 915.15 | 915.69 | 915.24 | 915.86 | 916.43 | 914.99 | 916.31 | 914.68 | 916.15 | 914.96 | 915.50 | 915.76                              | 915.5  |
| 9/7/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 914.99 | 916.31 | 915.49 | 914.95 | 915.10 | 915.64 | 915.20 | 915.81 | 916.37 | 914.96 | 916.26 | 914.64 | 916.10 | 914.91 | 915.45 | 915.71                              | 915.4  |
| 9/8/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 914.98 | 916.41 | 915.51 | 914.87 | 915.12 | 915.64 | 915.22 | 915.82 | 916.39 | 914.99 | 916.28 | 914.67 | 916.13 | 914.94 | 915.48 | 915.72                              | 915.4  |
| 9/9/2017  | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 914.97 | 916.41 | 915.66 | 915.00 | 915.23 | 915.75 | 915.32 | 915.94 | 916.48 | 915.12 | 916.38 | 914.78 | 916.25 | 915.06 | 915.60 | 915.84                              | 915.5  |
| 9/10/2017 | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.00 | 916.40 | 915.88 | 915.24 | 915.49 | 916.03 | 915.59 | 916.20 | 916.71 | 915.37 | 916.62 | 915.02 | 916.48 | 915.29 | 915.85 | 916.10                              | 915.7  |
| 9/11/2017 | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.04 | 915.51 | 915.73 | 915.10 | 915.31 | 915.86 | 915.42 | 916.01 | 916.57 | 915.22 | 916.47 | 914.89 | 916.34 | 915.16 | 915.69 | 915.91                              | 915.5  |
| 9/12/2017 | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 915.03 | 915.67 | 915.53 | 914.93 | 915.09 | 915.61 | 915.21 | 915.71 | 916.38 | 915.03 | 916.28 | 914.71 | 916.18 | 914.99 | 915.49 | 915.69                              | 915.3  |
| 9/13/2017 | 915.36                      | 915.10 | 921.59 | 918.95 | 921.80 | 914.92 | 915.74 | 915.47 | 915.04 | 915.04 | 915.52 | 915.15 | 915.58 | 916.32 | 915.05 | 916.22 | 914.67 | 916.14 | 914.94 | 915.46 | 915.64                              | 915.3  |
| 9/14/2017 | 915.36                      | 915.26 | 921.59 | 918.95 | 921.80 | 915.18 | 916.44 | 915.62 | 914.95 | 915.03 | 915.44 | 915.14 | 915.50 | 916.30 | 915.01 | 916.21 | 914.67 | 916.14 | 914.94 | 915.46 | 915.63                              | 915.4  |
| 9/15/2017 | 915.36                      | 915.49 | 921.59 | 918.95 | 921.80 | 916.00 | 917.29 | 916.01 | 915.10 | 915.14 | 915.49 | 915.26 | 915.53 | 916.42 | 915.36 | 916.33 | 915.06 | 916.27 | 915.08 | 915.63 | 915.74                              | 915.8  |
| 9/16/2017 | 915.36                      | 915.49 | 921.59 | 918.95 | 921.80 | 916.31 | 917.31 | 915.95 | 915.08 | 915.09 | 915.45 | 915.21 | 915.49 | 916.36 | 915.38 | 916.27 | 915.12 | 916.22 | 915.03 | 915.59 | 915.68                              | 915.9  |
| 9/17/2017 | 915.37                      | 915.50 | 921.59 | 918.95 | 921.80 | 916.42 | 917.32 | 915.71 | 914.95 | 914.87 | 915.25 | 914.99 | 915.31 | 916.14 | 915.21 | 916.05 | 914.95 | 916.01 | 914.82 | 915.39 | 915.46                              | 915.7  |
| 9/18/2017 | 915.41                      | 915.61 | 921.59 | 918.95 | 921.80 | 916.49 | 917.30 | 915.64 | 915.01 | 914.93 | 915.45 | 915.02 | 915.40 | 916.11 | 915.37 | 916.01 | 915.21 | 915.94 | 914.75 | 915.42 | 915.53                              | 915.8  |
| 9/19/2017 | 915.52                      | 915.90 | 921.59 | 918.95 | 921.80 | 916.58 | 917.43 | 915.75 | 915.15 | 915.09 | 915.77 | 915.15 | 915.62 | 916.20 | 915.69 | 916.09 | 915.53 | 915.91 | 914.72 | 915.51 | 915.70                              | 916.1  |
| 9/20/2017 | 916.20                      | 916.16 | 921.59 | 918.95 | 921.80 | 916.92 | 917.77 | 916.31 | 915.75 | 915.60 | 916.00 | 915.66 | 916.03 | 916.48 | 916.01 | 916.34 | 915.78 | 915.98 | 915.13 | 915.93 | 916.19                              | 916.4  |
| 9/21/2017 | 916.10                      | 916.01 | 921.59 | 918.95 | 921.80 | 917.06 | 917.70 | 916.45 | 915.90 | 915.53 | 916.05 | 915.59 | 916.09 | 916.87 | 916.06 | 916.63 | 915.86 | 916.18 | 915.32 | 916.13 | 916.13                              | 916.5  |
| 9/22/2017 | 915.88                      | 915.84 | 921.59 | 918.95 | 921.80 | 917.04 | 917.71 | 916.40 | 915.80 | 915.51 | 915.99 | 915.57 | 916.05 | 916.99 | 916.02 | 916.72 | 915.81 | 916.23 | 915.25 | 916.06 | 916.11                              | 916.4  |
| 9/23/2017 | 915.69                      | 915.76 | 921.59 | 918.95 | 921.80 | 917.02 | 917.68 | 916.32 | 915.63 | 915.44 | 915.91 | 915.51 | 915.98 | 916.98 | 915.97 | 916.72 | 915.77 | 916.28 | 915.14 | 915.97 | 916.04                              | 916.4  |
| 9/24/2017 | 915.57                      | 915.73 | 921.59 | 918.95 | 921.80 | 916.95 | 917.63 | 916.29 | 915.52 | 915.41 | 915.87 | 915.49 | 915.94 | 916.97 | 915.95 | 916.71 | 915.80 | 916.34 | 915.11 | 915.93 | 916.01                              | 916.3  |
| 9/25/2017 | 915.50                      | 915.71 | 921.59 | 918.95 | 921.80 | 916.90 | 917.59 | 916.22 | 915.40 | 915.34 | 915.79 | 915.43 | 915.87 | 916.90 | 915.90 | 916.64 | 915.76 | 916.32 | 915.08 | 915.85 | 915.94                              | 916.3  |
| 9/26/2017 | 915.46                      | 915.70 | 921.59 | 918.95 | 921.80 | 916.86 | 917.55 | 916.24 | 915.39 | 915.36 | 915.80 | 915.45 | 915.89 | 916.88 | 915.93 | 916.65 | 915.80 | 916.37 | 915.13 | 915.87 | 915.96                              | 916.3  |
| 9/27/2017 | 915.43                      | 915.68 | 921.59 | 918.95 | 921.80 | 916.83 | 917.54 | 916.16 | 915.30 | 915.29 | 915.72 | 915.39 | 915.80 | 916.78 | 915.85 | 916.57 | 915.73 | 916.32 | 915.08 | 915.79 | 915.88                              | 916.2  |
| 9/28/2017 | 915.41                      | 915.65 | 921.59 | 918.95 | 921.80 | 916.81 | 917.52 | 915.98 | 915.14 | 915.11 | 915.55 | 915.22 | 915.63 | 916.58 | 915.67 | 916.38 | 915.55 | 916.17 | 914.94 | 915.61 | 915.70                              | 916.1  |
| 9/29/2017 | 915.41                      | 915.63 | 921.59 | 918.95 | 921.80 | 916.77 | 917.48 | 915.98 | 915.14 | 915.08 | 915.51 | 915.18 | 915.60 | 916.50 | 915.64 | 916.32 | 915.50 | 916.15 | 914.92 | 915.59 | 915.67                              | 916.1  |
| 9/30/2017 | 915.53                      | 915.70 | 921.59 | 918.95 | 921.80 | 916.78 | 917.50 | 916.22 | 915.38 | 915.30 | 916.12 | 915.39 | 915.93 | 916.64 | 915.93 | 916.44 | 915.67 | 916.27 | 915.04 | 915.78 | 915.90                              | 916.3  |
| 10/1/2017 | 916.30                      | 916.19 | 921.59 | 918.95 | 921.80 | 917.03 | 917.78 | 916.91 | 916.30 | 916.19 | 916.62 | 916.24 | 916.64 | 917.04 | 916.59 | 916.84 | 916.22 | 916.47 | 915.69 | 916.48 | 91                                  |        |

**Table 12**  
**2017 Groundwater Elevation Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date       | Groundwater Monitoring Well |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | Treatment Area Average <sup>1</sup> |        |
|------------|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|--------|
|            | GWM-1                       | GWM-2  | GWM-3  | GWM-4  | GWM-5  | GWM-6  | GWM-7  | GWM-8  | GWM-9  | GWM-10 | GWM-11 | GWM-12 | GWM-13 | GWM-14 | GWM-15 | GWM-16 | GWM-17 | GWM-18 | GWM-19 | GWM-20 |                                     | GWM-21 |
| 10/12/2017 | 916.38                      | 916.29 | 921.59 | 918.95 | 921.80 | 917.62 | 918.14 | 916.81 | 916.30 | 915.99 | 916.60 | 916.03 | 916.60 | 917.52 | 916.58 | 917.06 | 916.27 | 916.54 | 915.72 | 916.52 | 916.60                              | 916.9  |
| 10/13/2017 | 916.61                      | 916.51 | 921.59 | 918.95 | 921.80 | 917.72 | 918.24 | 917.14 | 916.67 | 916.27 | 916.98 | 916.31 | 917.01 | 917.78 | 917.03 | 917.26 | 916.60 | 916.78 | 916.06 | 916.86 | 916.89                              | 917.2  |
| 10/14/2017 | 916.51                      | 916.43 | 921.59 | 918.95 | 921.80 | 917.65 | 918.17 | 917.44 | 916.95 | 916.56 | 917.13 | 916.61 | 917.15 | 918.18 | 917.18 | 917.66 | 916.93 | 917.18 | 916.37 | 917.17 | 917.17                              | 917.4  |
| 10/15/2017 | 916.33                      | 916.26 | 921.59 | 918.95 | 921.80 | 917.55 | 918.07 | 917.08 | 916.57 | 916.26 | 916.80 | 916.31 | 916.82 | 917.93 | 916.81 | 917.42 | 916.57 | 916.89 | 916.00 | 916.80 | 916.87                              | 917.1  |
| 10/16/2017 | 916.36                      | 916.29 | 921.59 | 918.95 | 921.80 | 917.56 | 918.09 | 916.96 | 916.44 | 916.22 | 916.67 | 916.26 | 916.70 | 917.76 | 916.69 | 917.26 | 916.43 | 916.74 | 915.86 | 916.66 | 916.83                              | 917.0  |
| 10/17/2017 | 916.60                      | 916.50 | 921.59 | 918.95 | 921.80 | 917.67 | 918.20 | 916.98 | 916.49 | 916.33 | 916.86 | 916.37 | 916.86 | 917.67 | 916.82 | 917.15 | 916.44 | 916.68 | 915.88 | 916.68 | 916.93                              | 917.1  |
| 10/18/2017 | 917.18                      | 917.04 | 921.59 | 918.95 | 921.80 | 917.95 | 918.50 | 917.28 | 916.83 | 916.56 | 917.38 | 916.61 | 917.18 | 917.76 | 917.16 | 917.28 | 916.73 | 916.86 | 916.22 | 917.01 | 917.15                              | 917.5  |
| 10/19/2017 | 918.75                      | 918.58 | 921.59 | 918.95 | 921.80 | 918.84 | 919.37 | 918.44 | 918.05 | 917.98 | 918.42 | 918.02 | 918.34 | 918.63 | 918.37 | 918.47 | 917.91 | 918.10 | 917.43 | 918.22 | 918.58                              | 918.5  |
| 10/20/2017 | 918.95                      | 918.79 | 921.59 | 918.95 | 921.80 | 918.99 | 919.53 | 918.86 | 918.50 | 917.80 | 918.37 | 917.83 | 918.37 | 918.93 | 918.64 | 918.81 | 918.38 | 918.46 | 917.90 | 918.70 | 918.43                              | 918.7  |
| 10/21/2017 | 918.69                      | 918.52 | 921.59 | 918.95 | 921.81 | 918.84 | 919.38 | 918.68 | 918.29 | 917.53 | 918.39 | 917.56 | 918.34 | 918.81 | 918.55 | 918.42 | 918.15 | 918.04 | 917.66 | 918.46 | 918.16                              | 918.6  |
| 10/22/2017 | 921.55                      | 921.40 | 921.68 | 918.95 | 923.57 | 920.80 | 921.46 | 921.66 | 921.34 | 920.96 | 921.13 | 920.84 | 921.11 | 921.63 | 921.29 | 922.21 | 921.17 | 921.89 | 920.81 | 921.62 | 921.70                              | 921.2  |
| 10/23/2017 | 920.12                      | 919.96 | 921.60 | 918.95 | 922.37 | 919.80 | 920.40 | 921.04 | 920.73 | 919.42 | 920.32 | 919.37 | 920.31 | 920.75 | 920.70 | 921.03 | 920.65 | 920.66 | 920.17 | 920.96 | 920.13                              | 920.5  |
| 10/24/2017 | 918.85                      | 918.69 | 921.59 | 918.95 | 921.80 | 919.02 | 919.57 | 919.62 | 919.25 | 918.43 | 918.97 | 918.44 | 918.95 | 919.58 | 919.32 | 919.53 | 919.16 | 919.16 | 918.67 | 919.46 | 919.06                              | 919.2  |
| 10/25/2017 | 918.22                      | 918.06 | 921.59 | 918.95 | 921.80 | 918.60 | 919.16 | 918.65 | 918.25 | 917.67 | 918.09 | 917.69 | 918.09 | 918.79 | 918.37 | 918.59 | 918.14 | 918.19 | 917.64 | 918.44 | 918.28                              | 918.4  |
| 10/26/2017 | 917.91                      | 917.75 | 921.59 | 918.95 | 921.80 | 918.41 | 918.98 | 918.47 | 918.05 | 917.60 | 917.96 | 917.63 | 917.96 | 918.72 | 918.19 | 918.50 | 917.95 | 918.04 | 917.45 | 918.25 | 918.20                              | 918.3  |
| 10/27/2017 | 917.84                      | 917.67 | 921.59 | 918.95 | 921.80 | 917.57 | 918.13 | 918.28 | 917.95 | 917.34 | 917.68 | 917.37 | 917.67 | 918.54 | 917.94 | 918.33 | 917.83 | 917.75 | 917.33 | 918.12 | 917.93                              | 917.9  |

**NOTES:**

Listed values are daily averages at each monitoring well.

Elevations are in feet above mean sea level.

<sup>1</sup>Average based on treatment area wells GWM-6, -7, -8, -11, -13, -15, and -17. Other wells were dry (groundwater level was below the screened interval) for extended periods.

**Table 13**  
**2017 Groundwater Temperature Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date      | Groundwater Monitoring Well |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        | Treatment Area Average <sup>1</sup> |        |
|-----------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|--------|
|           | GWM-1                       | GWM-2 | GWM-3 | GWM-4 | GWM-5 | GWM-6 | GWM-7 | GWM-8 | GWM-9 | GWM-10 | GWM-11 | GWM-12 | GWM-13 | GWM-14 | GWM-15 | GWM-16 | GWM-17 | GWM-18 | GWM-19 | GWM-20 |                                     | GWM-21 |
| 6/15/2017 | 51.9                        | 48.7  | 62.0  | 65.0  | 68.0  | 63.2  | 60.9  | --    | --    | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --                                  | 62.0   |
| 6/16/2017 | 65.4                        | 49.9  | 63.8  | 65.0  | 68.0  | 65.5  | 61.0  | --    | --    | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --                                  | 63.3   |
| 6/17/2017 | 73.7                        | 51.3  | 66.6  | 65.0  | 67.0  | 66.0  | 61.5  | --    | --    | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --                                  | 63.8   |
| 6/18/2017 | 77.8                        | 53.1  | 70.6  | 65.0  | 67.0  | 66.0  | 62.9  | --    | --    | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --                                  | 64.5   |
| 6/19/2017 | 75.5                        | 52.8  | 75.0  | 65.0  | 67.0  | 65.0  | 64.7  | --    | --    | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --                                  | 64.9   |
| 6/20/2017 | 64.5                        | 50.7  | 79.1  | 65.5  | 67.0  | 64.9  | 66.6  | --    | --    | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --                                  | 65.8   |
| 6/21/2017 | 60.8                        | 50.9  | 83.4  | 66.4  | 67.0  | 64.8  | 68.5  | --    | --    | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --     | --                                  | 66.6   |
| 6/22/2017 | 62.1                        | 51.5  | 87.5  | 68.6  | 67.0  | 68.8  | 70.9  | 64.0  | 49.3  | 48.7   | 57.5   | 52.2   | 98.8   | 50.5   | 53.6   | 47.8   | 51.7   | 52.3   | 51.4   | 50.4   | 49.6                                | 69.9   |
| 6/23/2017 | 63.4                        | 52.8  | 91.3  | 71.3  | 67.3  | 72.5  | 74.9  | 63.8  | 49.3  | 48.8   | 58.1   | 52.3   | 100.9  | 50.5   | 55.7   | 47.7   | 52.2   | 52.3   | 51.4   | 50.4   | 49.6                                | 73.7   |
| 6/24/2017 | 66.2                        | 54.8  | 94.6  | 74.3  | 68.7  | 73.8  | 78.5  | 64.1  | 49.3  | 48.9   | 59.4   | 52.5   | 102.8  | 50.5   | 58.8   | 47.7   | 53.4   | 52.3   | 51.4   | 50.5   | 49.6                                | 76.1   |
| 6/25/2017 | 64.7                        | 56.0  | 96.5  | 77.4  | 71.5  | 74.0  | 80.9  | 64.6  | 49.3  | 48.9   | 60.8   | 52.7   | 101.5  | 50.5   | 61.3   | 47.7   | 54.9   | 52.3   | 51.3   | 50.5   | 49.6                                | 77.5   |
| 6/26/2017 | 65.0                        | 57.0  | 97.8  | 80.4  | 75.8  | 74.0  | 82.4  | 65.2  | 49.3  | 48.9   | 62.2   | 52.8   | 101.1  | 50.5   | 63.6   | 47.7   | 56.6   | 52.3   | 51.4   | 50.5   | 49.5                                | 78.2   |
| 6/27/2017 | 64.7                        | 58.8  | 99.3  | 83.5  | 80.5  | 74.0  | 83.5  | 66.2  | 49.3  | 49.1   | 63.7   | 52.7   | 100.9  | 50.5   | 66.0   | 47.7   | 58.6   | 52.4   | 51.4   | 50.5   | 49.6                                | 78.7   |
| 6/28/2017 | 67.1                        | 60.8  | 100.5 | 86.4  | 85.1  | 74.0  | 84.6  | 67.8  | 49.3  | 49.7   | 65.2   | 53.0   | 101.3  | 50.5   | 68.0   | 47.8   | 60.6   | 52.6   | 51.5   | 50.5   | 49.6                                | 79.3   |
| 6/29/2017 | 68.3                        | 63.3  | 102.2 | 89.0  | 89.0  | 75.6  | 86.7  | 69.9  | 49.3  | 50.2   | 66.7   | 53.2   | 103.8  | 50.5   | 71.2   | 48.1   | 63.2   | 52.8   | 51.7   | 50.7   | 49.7                                | 81.1   |
| 6/30/2017 | 68.6                        | 65.3  | 104.2 | 90.9  | 92.1  | 79.6  | 90.8  | 72.7  | 49.8  | 50.5   | 68.2   | 53.4   | 105.8  | 50.7   | 74.4   | 48.3   | 65.1   | 53.0   | 51.8   | 50.7   | 49.8                                | 85.2   |
| 7/1/2017  | 70.4                        | 66.5  | 106.4 | 92.5  | 94.2  | 85.2  | 95.1  | 75.7  | 50.1  | 50.5   | 69.4   | 53.4   | 108.5  | 50.7   | 77.8   | 48.6   | 66.6   | 53.2   | 51.8   | 50.7   | 49.6                                | 90.1   |
| 7/2/2017  | 74.0                        | 68.1  | 108.9 | 94.0  | 96.0  | 90.0  | 98.8  | 78.8  | 50.5  | 50.9   | 70.6   | 53.5   | 110.0  | 50.8   | 81.1   | 48.7   | 68.0   | 53.3   | 52.0   | 50.9   | 49.7                                | 94.4   |
| 7/3/2017  | 79.9                        | 69.7  | 111.3 | 95.4  | 97.6  | 93.1  | 101.6 | 82.2  | 51.4  | 51.0   | 71.8   | 53.6   | 110.4  | 50.9   | 84.2   | 48.9   | 69.7   | 53.6   | 52.1   | 50.9   | 49.8                                | 97.4   |
| 7/4/2017  | 81.3                        | 71.0  | 113.5 | 96.5  | 99.4  | 95.6  | 103.5 | 85.4  | 52.3  | 50.9   | 73.1   | 53.6   | 111.0  | 51.0   | 86.8   | 49.0   | 70.9   | 53.7   | 52.3   | 50.9   | 49.8                                | 99.5   |
| 7/5/2017  | 84.5                        | 72.8  | 115.5 | 97.7  | 101.2 | 97.0  | 104.4 | 89.5  | 52.4  | 51.4   | 74.3   | 53.7   | 112.4  | 51.1   | 88.9   | 49.2   | 72.6   | 53.9   | 52.4   | 51.1   | 49.8                                | 100.7  |
| 7/6/2017  | 86.4                        | 75.1  | 117.5 | 99.0  | 103.1 | 95.6  | 107.3 | 92.6  | 50.0  | 52.1   | 75.4   | 53.8   | 114.4  | 51.3   | 91.1   | 49.4   | 74.3   | 54.0   | 52.7   | 51.1   | 49.6                                | 101.5  |
| 7/7/2017  | 91.8                        | 77.0  | 118.4 | 100.2 | 104.6 | 100.5 | 112.8 | 95.2  | 49.7  | 52.5   | 76.7   | 53.8   | 116.5  | 51.4   | 93.3   | 49.6   | 75.7   | 54.1   | 52.9   | 51.2   | 49.6                                | 106.7  |
| 7/8/2017  | 95.4                        | 79.0  | 118.6 | 101.4 | 106.5 | 102.7 | 114.3 | 97.4  | 50.1  | 52.9   | 78.2   | 54.0   | 118.0  | 51.6   | 95.3   | 49.8   | 77.0   | 54.2   | 53.2   | 51.3   | 49.6                                | 108.5  |
| 7/9/2017  | 96.0                        | 80.7  | 118.5 | 102.5 | 108.1 | 104.6 | 115.1 | 99.3  | 59.9  | 53.2   | 80.1   | 54.1   | 119.2  | 51.8   | 97.3   | 50.0   | 78.3   | 54.4   | 53.3   | 51.4   | 49.6                                | 109.9  |
| 7/10/2017 | 95.8                        | 81.3  | 117.8 | 103.5 | 109.5 | 105.0 | 113.9 | 100.9 | 63.5  | 52.9   | 82.0   | 54.3   | 119.2  | 52.0   | 97.5   | 50.3   | 78.5   | 54.5   | 53.5   | 51.4   | 49.8                                | 109.5  |
| 7/11/2017 | 97.5                        | 83.5  | 120.7 | 104.5 | 110.7 | 107.0 | 114.6 | 102.7 | 55.0  | 54.1   | 83.4   | 54.3   | 120.4  | 52.3   | 98.5   | 50.5   | 80.3   | 54.6   | 53.7   | 51.5   | 49.8                                | 110.8  |
| 7/12/2017 | 99.2                        | 85.6  | 120.8 | 105.3 | 112.1 | 110.5 | 119.3 | 104.4 | 68.2  | 54.7   | 85.1   | 54.6   | 120.2  | 52.5   | 100.2  | 50.7   | 82.1   | 54.7   | 53.9   | 51.7   | 49.8                                | 114.9  |
| 7/13/2017 | 101.3                       | 86.8  | 116.9 | 106.0 | 113.0 | 107.8 | 112.4 | 105.9 | 72.2  | 55.2   | 86.9   | 54.8   | 119.3  | 52.7   | 101.7  | 50.9   | 83.3   | 54.9   | 54.1   | 51.8   | 49.9                                | 110.1  |
| 7/14/2017 | 102.1                       | 87.8  | 119.2 | 106.6 | 113.1 | 106.3 | 112.2 | 107.4 | 69.9  | 55.8   | 88.2   | 55.1   | 120.3  | 53.0   | 103.2  | 51.1   | 84.2   | 55.0   | 54.3   | 52.1   | 50.0                                | 109.3  |
| 7/15/2017 | 103.6                       | 88.9  | 121.0 | 107.0 | 113.3 | 109.8 | 117.9 | 108.9 | 83.9  | 56.0   | 89.3   | 55.3   | 120.6  | 53.3   | 104.7  | 51.3   | 85.3   | 55.1   | 54.5   | 52.3   | 50.0                                | 113.8  |
| 7/16/2017 | 93.5                        | 89.8  | 122.3 | 107.2 | 114.0 | 111.8 | 122.3 | 110.4 | 85.2  | 56.2   | 90.3   | 55.5   | 120.8  | 53.5   | 106.3  | 51.5   | 86.3   | 55.3   | 54.7   | 52.7   | 50.2                                | 117.0  |
| 7/17/2017 | 78.8                        | 91.0  | 124.0 | 107.6 | 114.0 | 114.5 | 125.7 | 111.7 | 83.7  | 56.4   | 91.5   | 55.7   | 121.8  | 53.7   | 107.6  | 51.6   | 87.4   | 55.4   | 55.0   | 53.2   | 50.3                                | 120.1  |
| 7/18/2017 | 73.1                        | 91.6  | 126.0 | 108.0 | 114.0 | 118.5 | 128.6 | 112.7 | 68.5  | 56.8   | 92.8   | 55.9   | 123.5  | 54.1   | 108.1  | 51.8   | 88.0   | 55.6   | 55.0   | 53.3   | 50.5                                | 123.5  |
| 7/19/2017 | 60.1                        | 93.4  | 126.0 | 107.8 | 114.0 | 118.3 | 129.9 | 113.8 | 58.6  | 57.0   | 94.2   | 55.9   | 125.5  | 54.3   | 108.2  | 51.9   | 89.9   | 55.7   | 55.2   | 53.4   | 50.7                                | 124.1  |
| 7/20/2017 | 78.0                        | 96.6  | 126.9 | 107.5 | 114.5 | 118.2 | 130.9 | 114.4 | 60.8  | 56.8   | 95.6   | 56.0   | 128.2  | 54.5   | 109.9  | 52.1   | 91.0   | 55.8   | 55.2   | 53.5   | 50.8                                | 124.5  |
| 7/21/2017 | 113.8                       | 101.3 | 127.0 | 107.9 | 115.5 | 124.3 | 135.0 | 114.4 | 60.5  | 56.2   | 97.2   | 56.0   | 129.2  | 54.7   | 111.5  | 52.2   | 88.9   | 55.9   | 55.3   | 53.0   | 50.9                                | 129.6  |
| 7/22/2017 | 116.4                       | 102.5 | 127.6 | 108.0 | 116.6 | 131.0 | 137.9 | 114.4 | 60.7  | 56.1   | 98.5   | 55.9   | 129.2  | 55.0   | 111.2  | 52.3   | 87.6   | 56.0   | 55.4   | 52.7   | 51.0                                | 134.4  |
| 7/23/2017 | 117.3                       | 103.4 | 128.4 | 108.4 | 117.6 | 134.7 | 139.5 | 114.5 | 61.6  | 56.1   | 99.6   | 55.8   | 129.5  | 55.2   | 110.5  | 52.5   | 87.3   | 56.1   | 55.5   | 52.9   | 51.1                                | 137.1  |
| 7/24/2017 | 119.5                       | 104.4 | 129.4 | 109.0 | 118.5 | 137.3 | 141.6 | 114.7 | 62.0  | 56.2   | 100.7  | 55.7   | 129.8  | 55.4   | 109.6  | 52.7   | 87.3   | 56.2   | 55.6   | 52.9   | 51.1                                | 139.5  |
| 7/25/2017 | 121.7                       | 105.8 | 130.0 | 109.5 | 119.4 | 139.5 | 143.5 | 115.1 | 62.2  | 56.6   | 101.8  | 55.7   | 130.0  | 55.6   | 108.6  | 52.8   | 87.5   | 56.3   | 55.8   | 53.2   | 51.3                                | 141.5  |
| 7/26/2017 | 122.6                       | 106.0 | 130.1 | 110.0 | 120.4 | 140.8 | 145.3 | 115.7 | 62.8  | 57.0   | 102.8  | 55.8   | 130.4  | 55.8   | 107.7  | 52.9   | 87.8   | 56.3   | 55.9   | 53.4   | 51.4                                | 143.0  |
| 7/27/2017 | 122.5                       | 104.7 | 127.0 | 110.0 | 121.0 | 139.6 | 142.7 | 116.5 | 65.3  | 57.4   | 103.8  | 55.9   | 130.8  | 55.9   | 106.8  | 53.1   | 88.2   | 56.5   | 56.0   | 53.8   | 51.4                                | 141.1  |

**Table 13**  
**2017 Groundwater Temperature Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date      | Groundwater Monitoring Well |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |        | Treatment Area Average <sup>1</sup> |
|-----------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|
|           | GWM-1                       | GWM-2 | GWM-3 | GWM-4 | GWM-5 | GWM-6 | GWM-7 | GWM-8 | GWM-9 | GWM-10 | GWM-11 | GWM-12 | GWM-13 | GWM-14 | GWM-15 | GWM-16 | GWM-17 | GWM-18 | GWM-19 | GWM-20 | GWM-21 |                                     |
| 7/28/2017 | 112.5                       | 105.0 | 124.5 | 110.5 | 121.7 | 135.3 | 138.1 | 117.3 | 75.5  | 57.7   | 104.8  | 56.0   | 130.7  | 56.1   | 105.9  | 53.2   | 88.6   | 56.5   | 56.1   | 54.2   | 51.6   | 136.7                               |
| 7/29/2017 | 95.3                        | 105.7 | 124.0 | 111.0 | 122.5 | 132.1 | 137.0 | 118.3 | 88.1  | 58.2   | 105.7  | 56.1   | 130.4  | 56.3   | 105.1  | 53.3   | 89.0   | 56.7   | 56.3   | 54.4   | 51.6   | 134.5                               |
| 7/30/2017 | 91.9                        | 106.0 | 124.0 | 111.5 | 123.0 | 131.0 | 136.0 | 119.4 | 87.5  | 58.7   | 106.6  | 56.3   | 129.8  | 56.4   | 104.3  | 53.4   | 89.4   | 56.7   | 56.4   | 54.7   | 51.6   | 133.5                               |
| 7/31/2017 | 85.0                        | 107.2 | 124.0 | 112.0 | 123.7 | 131.0 | 135.1 | 120.7 | 85.7  | 59.0   | 107.3  | 56.3   | 129.0  | 56.5   | 103.6  | 53.6   | 89.7   | 56.8   | 56.6   | 54.9   | 51.6   | 133.0                               |
| 8/1/2017  | 81.3                        | 106.2 | 122.9 | 112.0 | 124.0 | 130.7 | 134.0 | 121.8 | 76.7  | 59.5   | 107.9  | 56.3   | 128.2  | 56.7   | 103.0  | 53.7   | 90.0   | 56.9   | 56.7   | 55.1   | 51.8   | 132.3                               |
| 8/2/2017  | 116.2                       | 108.1 | 123.5 | 112.0 | 124.0 | 129.6 | 133.5 | 122.4 | 62.2  | 59.9   | 108.5  | 56.3   | 127.4  | 56.8   | 102.3  | 53.8   | 90.2   | 57.0   | 56.8   | 55.2   | 51.8   | 131.6                               |
| 8/3/2017  | 119.4                       | 111.0 | 126.3 | 112.2 | 123.3 | 131.0 | 135.3 | 122.9 | 59.4  | 60.4   | 109.0  | 56.4   | 126.8  | 56.8   | 101.8  | 54.0   | 90.3   | 57.0   | 56.8   | 55.4   | 51.8   | 133.1                               |
| 8/4/2017  | 98.1                        | 117.0 | 127.3 | 112.1 | 123.0 | 131.8 | 137.0 | 122.3 | 75.4  | 59.5   | 109.3  | 56.5   | 125.2  | 57.0   | 101.4  | 54.2   | 89.9   | 57.2   | 57.1   | 54.4   | 52.1   | 134.4                               |
| 8/5/2017  | 103.4                       | 112.0 | 124.9 | 112.0 | 123.0 | 130.9 | 136.1 | 122.3 | 84.4  | 58.6   | 109.2  | 56.4   | 122.5  | 57.1   | 101.3  | 54.4   | 88.6   | 57.2   | 57.2   | 55.1   | 52.3   | 133.5                               |
| 8/6/2017  | 119.8                       | 105.8 | 126.0 | 112.0 | 122.0 | 135.2 | 137.2 | 122.7 | 79.7  | 59.4   | 108.9  | 56.3   | 122.2  | 57.2   | 100.8  | 54.5   | 87.8   | 57.4   | 57.3   | 56.0   | 52.2   | 136.2                               |
| 8/7/2017  | 104.3                       | 107.0 | 129.0 | 112.0 | 122.0 | 144.0 | 140.7 | 122.5 | 74.0  | 60.4   | 108.5  | 56.3   | 123.5  | 57.3   | 100.3  | 54.8   | 89.2   | 57.4   | 57.5   | 55.7   | 52.2   | 142.4                               |
| 8/8/2017  | 104.6                       | 111.7 | 127.5 | 112.0 | 122.0 | 143.3 | 142.6 | 122.3 | 94.9  | 61.7   | 108.1  | 56.3   | 124.8  | 57.4   | 99.7   | 55.0   | 89.8   | 57.6   | 57.6   | 55.9   | 52.3   | 143.0                               |
| 8/9/2017  | 98.3                        | 120.9 | 125.0 | 111.8 | 121.1 | 136.5 | 138.7 | 122.2 | 93.9  | 62.9   | 107.8  | 56.5   | 126.1  | 57.6   | 99.1   | 55.2   | 87.9   | 57.7   | 57.7   | 55.9   | 52.3   | 137.6                               |
| 8/10/2017 | 93.7                        | 119.9 | 126.2 | 111.0 | 121.0 | 138.6 | 140.0 | 122.4 | 92.3  | 63.5   | 107.6  | 56.7   | 126.8  | 57.6   | 98.3   | 55.4   | 85.2   | 57.7   | 57.8   | 56.1   | 52.4   | 139.3                               |
| 8/11/2017 | 89.1                        | 122.0 | 128.5 | 111.0 | 121.0 | 144.4 | 144.1 | 122.3 | 89.6  | 64.3   | 107.5  | 56.8   | 127.4  | 57.7   | 97.6   | 55.6   | 85.8   | 57.9   | 57.9   | 56.1   | 52.5   | 144.3                               |
| 8/12/2017 | 83.0                        | 121.0 | 126.4 | 111.0 | 120.0 | 141.7 | 143.2 | 122.4 | 84.7  | 64.8   | 107.4  | 57.0   | 127.7  | 57.8   | 97.0   | 55.8   | 84.1   | 57.9   | 58.0   | 56.0   | 52.6   | 142.4                               |
| 8/13/2017 | 79.7                        | 120.3 | 124.4 | 110.8 | 119.7 | 135.2 | 137.5 | 122.4 | 75.8  | 65.4   | 107.4  | 57.1   | 128.1  | 57.9   | 96.5   | 55.9   | 83.3   | 58.1   | 58.1   | 56.1   | 52.7   | 136.4                               |
| 8/14/2017 | 78.8                        | 119.2 | 120.0 | 111.0 | 119.0 | 122.0 | 126.1 | 122.5 | 65.3  | 65.8   | 107.4  | 57.2   | 128.3  | 58.1   | 96.1   | 56.1   | 83.7   | 58.1   | 58.1   | 56.3   | 52.8   | 124.1                               |
| 8/15/2017 | 77.4                        | 120.3 | 125.2 | 110.3 | 119.0 | 136.6 | 135.3 | 122.9 | 58.0  | 66.6   | 107.5  | 57.4   | 128.5  | 58.1   | 95.7   | 56.3   | 83.9   | 58.1   | 58.3   | 56.1   | 52.9   | 136.0                               |
| 8/16/2017 | 76.0                        | 122.4 | 128.0 | 110.0 | 118.8 | 147.0 | 143.3 | 123.2 | 57.9  | 67.4   | 107.6  | 57.6   | 128.1  | 58.2   | 95.4   | 56.4   | 84.0   | 58.3   | 58.3   | 56.0   | 53.2   | 145.2                               |
| 8/17/2017 | 76.3                        | 125.0 | 125.3 | 110.0 | 118.0 | 140.4 | 141.3 | 123.4 | 61.9  | 68.0   | 107.7  | 57.6   | 127.7  | 58.3   | 95.1   | 56.6   | 85.7   | 58.3   | 58.5   | 55.9   | 53.8   | 140.9                               |
| 8/18/2017 | 76.0                        | 126.1 | 124.8 | 109.7 | 118.0 | 140.1 | 141.9 | 123.6 | 68.7  | 68.5   | 107.9  | 57.6   | 127.8  | 58.3   | 94.8   | 56.7   | 87.4   | 58.3   | 58.5   | 55.9   | 54.1   | 141.0                               |
| 8/19/2017 | 76.0                        | 127.0 | 124.0 | 109.0 | 118.0 | 140.9 | 142.0 | 123.7 | 82.9  | 69.3   | 108.0  | 57.6   | 128.1  | 58.5   | 94.5   | 56.8   | 88.5   | 58.3   | 58.5   | 55.9   | 54.3   | 141.4                               |
| 8/20/2017 | 76.8                        | 127.0 | 123.8 | 109.0 | 118.0 | 141.0 | 142.0 | 123.9 | 93.7  | 70.1   | 108.1  | 57.6   | 128.3  | 58.5   | 94.3   | 57.0   | 89.0   | 58.1   | 58.6   | 55.8   | 54.5   | 141.5                               |
| 8/21/2017 | 77.0                        | 127.2 | 123.9 | 108.9 | 118.0 | 141.0 | 142.0 | 124.1 | 101.3 | 70.8   | 108.3  | 57.7   | 128.4  | 58.5   | 94.0   | 57.0   | 88.8   | 58.1   | 58.6   | 55.8   | 54.6   | 141.5                               |
| 8/22/2017 | 77.5                        | 127.5 | 123.4 | 108.5 | 117.8 | 141.0 | 142.0 | 124.3 | 101.8 | 71.3   | 108.5  | 57.7   | 128.6  | 58.5   | 93.7   | 57.2   | 88.6   | 58.1   | 58.6   | 55.8   | 54.7   | 141.5                               |
| 8/23/2017 | 78.7                        | 127.7 | 122.5 | 108.1 | 117.4 | 137.1 | 137.7 | 124.4 | 101.9 | 71.7   | 108.6  | 57.8   | 128.7  | 58.6   | 93.4   | 57.2   | 88.6   | 58.0   | 58.6   | 55.8   | 54.6   | 137.4                               |
| 8/24/2017 | 94.5                        | 127.8 | 117.5 | 108.0 | 117.0 | 122.8 | 125.3 | 124.5 | 96.4  | 72.4   | 108.7  | 57.9   | 128.6  | 58.6   | 93.1   | 57.4   | 87.8   | 57.9   | 58.6   | 55.7   | 54.5   | 124.0                               |
| 8/25/2017 | 107.1                       | 127.4 | 114.0 | 108.0 | 117.0 | 116.9 | 119.8 | 124.5 | 93.5  | 72.9   | 108.9  | 57.9   | 128.2  | 58.6   | 92.7   | 57.4   | 84.7   | 57.9   | 58.6   | 55.8   | 54.5   | 118.3                               |
| 8/26/2017 | 105.6                       | 126.6 | 111.9 | 108.2 | 117.0 | 115.3 | 117.4 | 124.4 | 94.6  | 73.0   | 108.9  | 58.1   | 127.2  | 58.6   | 92.2   | 57.5   | 82.5   | 57.9   | 58.6   | 55.8   | 54.7   | 116.3                               |
| 8/27/2017 | 104.0                       | 119.8 | 110.1 | 108.3 | 117.0 | 113.5 | 114.3 | 124.0 | 96.9  | 72.3   | 108.9  | 58.1   | 125.5  | 58.6   | 91.6   | 57.6   | 81.1   | 57.9   | 58.6   | 55.9   | 54.9   | 113.9                               |
| 8/28/2017 | 103.8                       | 114.8 | 109.0 | 108.4 | 117.1 | 110.8 | 111.1 | 123.8 | 100.6 | 71.6   | 108.8  | 58.0   | 124.1  | 58.6   | 91.1   | 57.6   | 80.0   | 57.8   | 58.7   | 56.2   | 54.9   | 111.0                               |
| 8/29/2017 | 103.0                       | 117.5 | 107.8 | 108.0 | 117.0 | 108.7 | 109.0 | 123.8 | 103.8 | 71.6   | 108.5  | 57.8   | 123.2  | 58.6   | 90.7   | 57.7   | 79.9   | 57.7   | 58.8   | 55.9   | 54.9   | 108.8                               |
| 8/30/2017 | 103.0                       | 113.5 | 106.5 | 108.0 | 117.0 | 110.6 | 110.0 | 123.6 | 103.6 | 72.3   | 108.1  | 57.7   | 121.3  | 58.6   | 90.4   | 57.7   | 79.8   | 57.7   | 58.8   | 55.8   | 54.9   | 110.3                               |
| 8/31/2017 | 101.9                       | 109.7 | 104.7 | 107.6 | 116.9 | 112.5 | 110.0 | 123.0 | 102.4 | 72.8   | 107.7  | 57.7   | 119.0  | 58.6   | 89.9   | 57.9   | 78.8   | 57.7   | 58.8   | 55.8   | 54.9   | 111.3                               |
| 9/1/2017  | 100.6                       | 107.1 | 103.8 | 107.0 | 116.2 | 113.6 | 110.0 | 122.4 | 101.6 | 73.1   | 107.3  | 57.7   | 117.2  | 58.8   | 89.5   | 57.9   | 78.0   | 57.7   | 58.8   | 55.8   | 54.9   | 111.8                               |
| 9/2/2017  | 98.9                        | 105.3 | 102.8 | 107.0 | 115.8 | 114.0 | 110.0 | 121.3 | 100.8 | 73.5   | 107.0  | 57.9   | 115.5  | 58.8   | 89.1   | 58.0   | 77.5   | 57.7   | 58.8   | 55.8   | 55.0   | 112.0                               |
| 9/3/2017  | 97.7                        | 104.0 | 102.0 | 106.3 | 114.9 | 114.0 | 109.8 | 120.0 | 100.1 | 73.9   | 106.7  | 57.9   | 113.9  | 58.8   | 88.7   | 58.1   | 77.1   | 57.7   | 58.8   | 55.8   | 55.0   | 111.9                               |
| 9/4/2017  | 96.9                        | 103.2 | 101.0 | 106.0 | 114.0 | 113.8 | 109.0 | 118.4 | 99.3  | 74.3   | 106.3  | 57.9   | 112.5  | 58.8   | 88.3   | 58.1   | 76.9   | 57.7   | 59.0   | 55.8   | 55.2   | 111.4                               |
| 9/5/2017  | 96.0                        | 102.7 | 101.0 | 106.0 | 113.0 | 113.0 | 109.0 | 115.0 | 98.9  | 74.5   | 106.0  | 57.9   | 111.1  | 58.8   | 88.0   | 58.1   | 76.7   | 57.7   | 59.0   | 55.8   | 55.2   | 111.0                               |
| 9/6/2017  | 95.6                        | 101.2 | 100.0 | 105.0 | 112.0 | 112.5 | 108.5 | 111.2 | 98.1  | 74.5   | 105.6  | 57.9   | 109.8  | 58.8   | 87.7   | 58.3   | 76.6   | 57.7   | 59.0   | 55.8   | 55.2   | 110.5                               |
| 9/7/2017  | 95.1                        | 99.6  | 99.0  | 104.0 | 111.0 | 112.0 | 108.0 | 108.8 | 96.8  | 74.9   | 105.3  | 57.8   | 108.6  | 58.8   | 87.4   | 58.3   | 76.6   | 57.7   | 59.0   | 55.8   | 55.2   | 110.0                               |
| 9/8/2017  | 95.0                        | 98.4  | 98.8  | 104.0 | 110.1 | 111.3 | 107.1 | 107.4 | 96.3  | 75.0   | 104.9  | 57.7   | 107.5  | 58.8   | 87.1   | 58.5   | 76.5   | 57.7   | 59.0   | 55.8   | 55.2   | 109.2                               |

**Table 13**  
**2017 Groundwater Temperature Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date       | Groundwater Monitoring Well |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |        | Treatment Area Average <sup>1</sup> |
|------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|
|            | GWM-1                       | GWM-2 | GWM-3 | GWM-4 | GWM-5 | GWM-6 | GWM-7 | GWM-8 | GWM-9 | GWM-10 | GWM-11 | GWM-12 | GWM-13 | GWM-14 | GWM-15 | GWM-16 | GWM-17 | GWM-18 | GWM-19 | GWM-20 | GWM-21 |                                     |
| 9/9/2017   | 94.5                        | 97.4  | 98.0  | 103.3 | 109.2 | 110.8 | 106.3 | 106.6 | 95.1  | 74.8   | 104.5  | 57.7   | 106.5  | 58.8   | 86.8   | 58.5   | 76.5   | 57.7   | 59.0   | 55.9   | 55.2   | 108.6                               |
| 9/10/2017  | 93.6                        | 96.5  | 97.0  | 102.9 | 108.4 | 110.0 | 106.0 | 105.3 | 94.4  | 74.2   | 104.1  | 57.7   | 105.5  | 58.8   | 86.6   | 58.6   | 76.4   | 57.7   | 59.1   | 55.9   | 55.2   | 108.0                               |
| 9/11/2017  | 93.0                        | 94.9  | 96.3  | 102.0 | 107.9 | 109.2 | 106.0 | 104.1 | 93.6  | 74.5   | 103.7  | 57.6   | 104.4  | 58.8   | 86.3   | 58.6   | 76.3   | 57.7   | 59.2   | 55.9   | 55.2   | 107.6                               |
| 9/12/2017  | 92.2                        | 94.5  | 95.8  | 101.0 | 107.0 | 108.6 | 105.8 | 103.4 | 92.4  | 74.9   | 103.3  | 57.7   | 103.5  | 58.8   | 86.1   | 58.8   | 76.6   | 57.9   | 59.2   | 55.9   | 55.4   | 107.2                               |
| 9/13/2017  | 91.1                        | 94.3  | 94.7  | 100.0 | 106.1 | 107.8 | 105.0 | 102.9 | 91.2  | 74.7   | 102.9  | 57.7   | 102.6  | 58.8   | 85.9   | 58.8   | 77.3   | 57.9   | 59.2   | 56.0   | 55.4   | 106.4                               |
| 9/14/2017  | 91.3                        | 95.0  | 93.5  | 99.2  | 105.2 | 106.8 | 104.3 | 103.0 | 90.7  | 74.6   | 102.5  | 57.7   | 101.9  | 58.8   | 85.7   | 58.8   | 77.9   | 57.9   | 59.2   | 56.1   | 55.4   | 105.6                               |
| 9/15/2017  | 93.0                        | 95.3  | 92.8  | 98.4  | 104.8 | 101.6 | 101.3 | 102.3 | 91.7  | 73.7   | 102.0  | 57.7   | 101.4  | 58.8   | 85.5   | 59.0   | 79.6   | 57.9   | 59.2   | 56.1   | 55.4   | 101.4                               |
| 9/16/2017  | 93.0                        | 94.3  | 92.0  | 97.8  | 104.0 | 95.4  | 97.9  | 101.8 | 91.6  | 72.8   | 101.7  | 57.6   | 101.0  | 58.8   | 85.6   | 59.0   | 83.2   | 57.9   | 59.4   | 56.2   | 55.4   | 96.6                                |
| 9/17/2017  | 92.2                        | 92.8  | 92.0  | 97.0  | 103.5 | 92.8  | 95.5  | 101.9 | 90.9  | 71.6   | 101.3  | 57.4   | 100.6  | 58.8   | 85.6   | 59.0   | 84.8   | 57.8   | 59.4   | 56.3   | 55.4   | 94.2                                |
| 9/18/2017  | 92.6                        | 90.8  | 92.0  | 96.8  | 103.0 | 91.2  | 94.1  | 102.3 | 87.7  | 68.8   | 100.8  | 57.2   | 100.1  | 58.8   | 85.6   | 59.2   | 87.5   | 57.8   | 59.4   | 56.3   | 55.4   | 92.7                                |
| 9/19/2017  | 92.5                        | 90.6  | 91.7  | 96.3  | 103.0 | 90.6  | 93.8  | 103.1 | 83.6  | 63.2   | 100.3  | 56.6   | 99.5   | 58.8   | 86.1   | 59.3   | 85.8   | 58.5   | 59.4   | 56.3   | 54.5   | 92.2                                |
| 9/20/2017  | 76.1                        | 87.5  | 91.0  | 95.9  | 103.0 | 89.2  | 92.4  | 103.2 | 82.0  | 58.4   | 99.5   | 55.7   | 98.5   | 59.0   | 86.1   | 59.5   | 85.8   | 58.1   | 59.4   | 55.7   | 53.2   | 90.8                                |
| 9/21/2017  | 85.7                        | 86.8  | 91.0  | 95.0  | 102.7 | 88.1  | 90.7  | 101.8 | 85.5  | 57.7   | 99.0   | 56.5   | 97.8   | 59.1   | 85.7   | 59.5   | 86.6   | 57.6   | 59.4   | 56.0   | 53.2   | 89.4                                |
| 9/22/2017  | 89.0                        | 87.0  | 91.0  | 94.5  | 102.0 | 88.0  | 89.8  | 100.8 | 87.3  | 57.7   | 98.3   | 56.8   | 97.4   | 59.0   | 85.5   | 59.4   | 87.5   | 57.6   | 59.4   | 56.1   | 53.2   | 88.9                                |
| 9/23/2017  | 90.7                        | 87.4  | 91.0  | 94.0  | 101.9 | 88.0  | 89.0  | 100.1 | 88.1  | 58.8   | 97.6   | 56.7   | 97.1   | 59.0   | 85.5   | 59.1   | 88.0   | 57.6   | 59.2   | 56.1   | 53.6   | 88.5                                |
| 9/24/2017  | 91.0                        | 87.1  | 90.8  | 93.1  | 101.0 | 88.0  | 88.3  | 99.6  | 87.7  | 61.6   | 96.8   | 56.5   | 96.9   | 58.8   | 85.4   | 58.9   | 88.3   | 57.6   | 59.2   | 56.1   | 54.4   | 88.2                                |
| 9/25/2017  | 91.3                        | 86.5  | 90.0  | 92.8  | 100.4 | 87.6  | 88.0  | 99.1  | 87.0  | 63.7   | 96.0   | 56.3   | 96.6   | 58.8   | 85.3   | 58.7   | 88.1   | 57.4   | 59.2   | 56.1   | 54.7   | 87.8                                |
| 9/26/2017  | 90.2                        | 86.0  | 90.0  | 92.0  | 100.0 | 87.0  | 87.1  | 98.5  | 86.7  | 64.8   | 95.5   | 56.2   | 96.2   | 58.7   | 85.3   | 58.6   | 87.7   | 57.4   | 59.2   | 56.0   | 54.9   | 87.0                                |
| 9/27/2017  | 88.0                        | 85.3  | 90.0  | 92.0  | 99.0  | 86.4  | 86.8  | 97.9  | 86.0  | 65.5   | 94.7   | 56.1   | 95.9   | 58.6   | 85.3   | 58.6   | 87.3   | 57.2   | 59.0   | 55.9   | 54.9   | 86.6                                |
| 9/28/2017  | 86.5                        | 84.8  | 89.8  | 91.0  | 98.3  | 86.0  | 86.0  | 97.3  | 85.7  | 66.2   | 94.0   | 56.1   | 95.5   | 58.6   | 85.3   | 58.5   | 86.8   | 57.2   | 59.0   | 55.9   | 54.9   | 86.0                                |
| 9/29/2017  | 85.7                        | 84.6  | 89.0  | 91.0  | 97.8  | 85.4  | 85.8  | 96.4  | 85.1  | 66.7   | 93.4   | 55.9   | 95.1   | 58.5   | 85.1   | 58.5   | 86.2   | 57.0   | 59.0   | 55.9   | 54.9   | 85.6                                |
| 9/30/2017  | 85.0                        | 83.9  | 89.0  | 90.8  | 97.0  | 85.0  | 85.0  | 95.2  | 81.2  | 66.6   | 92.4   | 55.8   | 94.5   | 58.4   | 85.2   | 58.6   | 85.6   | 57.4   | 58.9   | 55.9   | 54.8   | 85.0                                |
| 10/1/2017  | 84.9                        | 82.2  | 89.0  | 90.0  | 96.4  | 84.1  | 84.5  | 93.6  | 79.3  | 58.3   | 91.1   | 54.5   | 93.0   | 58.6   | 84.9   | 58.7   | 84.1   | 56.9   | 58.8   | 55.4   | 53.3   | 84.3                                |
| 10/2/2017  | 83.9                        | 81.5  | 87.3  | 90.0  | 96.0  | 83.0  | 83.3  | 92.5  | 81.1  | 57.0   | 90.4   | 55.7   | 92.3   | 58.8   | 84.2   | 59.0   | 83.3   | 56.7   | 58.7   | 55.5   | 53.1   | 83.2                                |
| 10/3/2017  | 83.5                        | 82.0  | 86.0  | 89.5  | 95.1  | 83.0  | 83.0  | 93.1  | 81.8  | 56.5   | 89.7   | 56.4   | 91.9   | 58.6   | 83.7   | 58.8   | 83.1   | 56.7   | 58.6   | 55.6   | 53.1   | 83.0                                |
| 10/4/2017  | 85.9                        | 81.7  | 84.0  | 88.4  | 94.0  | 82.0  | 82.0  | 93.7  | 82.1  | 57.6   | 89.1   | 56.5   | 91.6   | 58.6   | 83.5   | 58.6   | 83.2   | 56.7   | 58.6   | 55.6   | 53.4   | 82.0                                |
| 10/5/2017  | 85.9                        | 81.2  | 83.4  | 88.0  | 93.3  | 81.9  | 81.8  | 93.7  | 82.0  | 61.0   | 88.4   | 56.4   | 91.5   | 58.5   | 83.3   | 58.3   | 83.1   | 56.7   | 58.5   | 55.5   | 53.9   | 81.8                                |
| 10/6/2017  | 84.6                        | 80.7  | 83.0  | 87.5  | 93.0  | 81.2  | 81.0  | 93.5  | 82.0  | 63.6   | 87.8   | 56.3   | 91.4   | 58.4   | 83.1   | 58.1   | 83.0   | 56.6   | 58.5   | 55.4   | 54.3   | 81.1                                |
| 10/7/2017  | 81.0                        | 80.7  | 83.0  | 87.0  | 92.3  | 80.9  | 81.0  | 93.0  | 74.8  | 62.1   | 86.2   | 55.7   | 90.3   | 58.3   | 83.1   | 57.9   | 81.8   | 56.5   | 58.5   | 55.5   | 54.0   | 81.0                                |
| 10/8/2017  | 78.8                        | 78.9  | 82.5  | 86.9  | 91.9  | 79.5  | 80.1  | 92.7  | 75.4  | 55.8   | 84.9   | 54.7   | 88.7   | 58.6   | 82.8   | 57.9   | 80.6   | 56.3   | 58.4   | 55.1   | 52.9   | 79.8                                |
| 10/9/2017  | 81.0                        | 79.3  | 82.0  | 86.1  | 91.0  | 79.0  | 79.5  | 92.3  | 79.3  | 55.0   | 84.5   | 55.8   | 88.9   | 58.8   | 82.1   | 57.8   | 79.9   | 56.3   | 58.1   | 55.2   | 53.1   | 79.3                                |
| 10/10/2017 | 82.0                        | 78.9  | 81.5  | 86.0  | 90.5  | 79.0  | 79.0  | 91.8  | 79.7  | 54.7   | 83.6   | 56.3   | 88.5   | 58.8   | 81.7   | 57.5   | 79.6   | 56.3   | 58.0   | 55.2   | 53.6   | 79.0                                |
| 10/11/2017 | 81.2                        | 78.0  | 80.5  | 85.3  | 90.0  | 78.4  | 78.3  | 91.2  | 78.7  | 54.4   | 82.1   | 55.9   | 87.8   | 58.8   | 81.6   | 57.2   | 79.3   | 56.1   | 57.9   | 55.2   | 53.6   | 78.4                                |
| 10/12/2017 | 80.5                        | 77.1  | 80.0  | 85.0  | 89.1  | 78.0  | 78.0  | 90.6  | 78.4  | 54.0   | 81.1   | 55.8   | 87.3   | 58.8   | 81.2   | 56.9   | 78.7   | 56.1   | 57.9   | 55.0   | 53.6   | 78.0                                |
| 10/13/2017 | 78.7                        | 75.7  | 79.2  | 84.5  | 88.7  | 77.3  | 77.2  | 89.9  | 76.0  | 54.1   | 79.0   | 55.7   | 85.8   | 58.8   | 80.0   | 56.7   | 78.1   | 56.1   | 57.9   | 55.0   | 53.5   | 77.2                                |
| 10/14/2017 | 79.5                        | 76.0  | 79.0  | 84.0  | 88.0  | 76.5  | 76.7  | 89.3  | 77.7  | 54.2   | 78.7   | 56.0   | 86.3   | 58.8   | 79.9   | 56.2   | 77.4   | 56.1   | 57.7   | 55.0   | 53.5   | 76.6                                |
| 10/15/2017 | 80.0                        | 76.3  | 78.0  | 83.7  | 87.3  | 76.0  | 76.0  | 88.6  | 78.1  | 54.5   | 78.4   | 56.2   | 86.2   | 58.6   | 79.8   | 55.9   | 77.4   | 55.9   | 57.6   | 55.0   | 53.6   | 76.0                                |
| 10/16/2017 | 78.9                        | 76.2  | 78.0  | 83.0  | 87.0  | 76.0  | 76.0  | 88.0  | 78.3  | 54.5   | 78.1   | 55.5   | 86.2   | 58.5   | 79.6   | 55.6   | 77.5   | 55.8   | 57.5   | 54.8   | 53.4   | 76.0                                |
| 10/17/2017 | 77.1                        | 75.3  | 77.7  | 82.8  | 86.2  | 76.2  | 76.0  | 87.4  | 75.4  | 54.1   | 76.3   | 55.1   | 84.9   | 58.4   | 78.9   | 55.3   | 77.4   | 55.7   | 57.4   | 54.6   | 53.3   | 76.1                                |
| 10/18/2017 | 75.3                        | 73.1  | 77.0  | 82.0  | 85.8  | 75.9  | 75.6  | 86.6  | 68.5  | 52.6   | 74.0   | 54.7   | 82.7   | 58.3   | 77.4   | 55.0   | 76.5   | 55.4   | 57.5   | 54.5   | 53.0   | 75.8                                |
| 10/19/2017 | 69.6                        | 70.8  | 77.0  | 82.0  | 85.0  | 74.8  | 75.0  | 85.8  | 62.8  | 52.0   | 68.1   | 55.9   | 77.1   | 58.3   | 74.1   | 54.4   | 75.3   | 54.8   | 57.9   | 54.4   | 52.7   | 74.9                                |
| 10/20/2017 | 71.1                        | 71.6  | 77.0  | 81.2  | 84.0  | 73.8  | 74.0  | 85.3  | 63.3  | 51.8   | 67.8   | 56.8   | 79.7   | 57.7   | 72.4   | 54.6   | 74.1   | 54.5   | 57.7   | 54.6   | 52.8   | 73.9                                |

**Table 13**  
**2017 Groundwater Temperature Data**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Date       | Groundwater Monitoring Well |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |        | Treatment Area Average <sup>1</sup> |
|------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|
|            | GWM-1                       | GWM-2 | GWM-3 | GWM-4 | GWM-5 | GWM-6 | GWM-7 | GWM-8 | GWM-9 | GWM-10 | GWM-11 | GWM-12 | GWM-13 | GWM-14 | GWM-15 | GWM-16 | GWM-17 | GWM-18 | GWM-19 | GWM-20 | GWM-21 |                                     |
| 10/21/2017 | 72.0                        | 69.2  | 76.5  | 81.0  | 82.8  | 72.8  | 73.0  | 84.6  | 63.4  | 51.9   | 65.3   | 56.2   | 78.5   | 57.5   | 71.2   | 54.3   | 73.4   | 54.5   | 57.4   | 54.9   | 53.1   | 72.9                                |
| 10/22/2017 | 57.1                        | 67.2  | 74.3  | 80.4  | 76.0  | 70.7  | 73.0  | 81.6  | 55.9  | 51.1   | 63.4   | 55.2   | 74.4   | 57.1   | 68.7   | 53.2   | 67.6   | 54.2   | 55.4   | 53.6   | 52.8   | 71.8                                |
| 10/23/2017 | 61.0                        | 63.5  | 72.2  | 78.3  | 70.5  | 67.2  | 71.6  | 81.6  | 60.1  | 52.5   | 61.4   | 56.5   | 79.3   | 56.8   | 66.0   | 54.2   | 63.3   | 54.1   | 54.0   | 52.9   | 52.9   | 69.4                                |
| 10/24/2017 | 64.0                        | 65.4  | 73.0  | 77.2  | 73.8  | 65.9  | 69.0  | 81.9  | 64.2  | 52.3   | 63.8   | 56.6   | 81.5   | 56.5   | 66.9   | 54.7   | 65.7   | 54.3   | 54.1   | 53.1   | 52.4   | 67.5                                |
| 10/25/2017 | 65.2                        | 67.1  | 73.8  | 77.0  | 75.0  | 66.0  | 68.6  | 81.9  | 66.0  | 52.2   | 65.5   | 55.7   | 82.4   | 56.4   | 68.0   | 54.1   | 67.2   | 54.3   | 54.1   | 53.1   | 52.3   | 67.3                                |
| 10/26/2017 | 66.5                        | 68.3  | 74.0  | 76.1  | 75.0  | 66.8  | 68.5  | 81.4  | 67.0  | 51.6   | 66.5   | 55.2   | 83.0   | 56.1   | 69.0   | 52.7   | 68.3   | 54.3   | 54.2   | 53.1   | 52.2   | 67.7                                |
| 10/27/2017 | 67.6                        | 69.4  | 74.0  | 76.0  | 75.0  | 67.6  | 69.0  | 80.7  | 68.0  | 51.4   | 67.2   | 55.0   | 83.3   | 55.8   | 69.7   | 52.4   | 69.0   | 54.1   | 54.3   | 52.9   | 52.2   | 68.3                                |

NOTES:  
Listed values are daily averages at each monitoring well.  
Temperatures are in degrees Fahrenheit.  
<sup>1</sup> Average based on treatment area wells GWM-6 and -7.  
-- = no data

**Table 14**  
**2017 Hot Water Flushing Flow Rates, Groundwater Injection Temperatures, and Pore Volumes Treated**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| <b>Date</b> | <b>Week No.</b> | <b>Total Weekly Flow<br/>(gallons)</b> | <b>Average Weekly<br/>Groundwater<br/>Recirculation Flow<br/>Rate<br/>(gallons per minute)</b> | <b>Average Treated<br/>Groundwater<br/>Injection Temperature<br/>(°F)</b> | <b>Pore Volumes<br/>Treated<sup>1</sup></b> | <b>Cumulative Pore<br/>Volumes Treated<br/>Since Start of<br/>Treatment in 2016</b> |
|-------------|-----------------|--|--|---|---|---|
| 6/15/2017   | 20              | 41,136                                 | 4  | 53  | 0.1   | 17.9  |
| 6/22/2017   | 21              | 546,809                                | 54   | 158   | 1.8   | 19.7  |
| 6/29/2017   | 22              | 536,151                                | 53   | 160   | 1.7   | 21.4  |
| 7/6/2017    | 23              | 511,784                                | 51   | 160   | 1.7   | 23.1  |
| 7/13/2017   | 24              | 528,290                                | 52   | 161   | 1.7   | 24.8  |
| 7/20/2017   | 25              | 512,880                                | 51   | 162   | 1.7   | 26.4  |
| 7/27/2017   | 26              | 528,937                                | 52   | 154   | 1.7   | 28.1  |
| 8/3/2017    | 27              | 504,498                                | 50   | 146   | 1.6   | 29.8  |
| 8/10/2017   | 28              | 350,492                                | 35   | 151   | 1.1   | 30.9  |
| 8/17/2017   | 29              | 487,679                                | 48   | 152   | 1.6   | 32.5  |
| 8/24/2017   | 30              | 476,231                                | 47   | 147   | 1.5   | 34.0  |
| 8/31/2017   | 31              | 368,540                                | 37   | 107   | 1.2   | 35.2  |
| 9/7/2017    | 32              | 380,980                                | 38   | 99  | 1.2   | 36.4  |
| 9/14/2017   | 33              | 333,075                                | 33   | 92  | 1.1   | 37.5  |
| 9/21/2017   | 34              | 311,903                                | 31   | 89  | 1.0   | 38.5  |
| 9/28/2017   | 35              | 392,466                                | 39   | 87  | 1.3   | 39.8  |
| 10/5/2017   | 36              | 406,612                                | 40   | 83  | 1.3   | 41.1  |
| 10/12/2017  | 37              | 378,874                                | 38   | 80  | 1.2   | 42.3  |
| 10/19/2017  | 38              | 415,977                                | 41   | 77  | 1.3   | 43.6  |
| 10/26/2017  | 39              | 368,401                                | 37   | 70  | 1.2   | 44.8  |

**NOTES:**

Injection temperatures are in degrees Fahrenheit.

<sup>1</sup> A pore volume has been defined as the volume of water in the saturated portion of the aquifer that contains contamination exceeding allowable levels. At the School Site, a pore volume consists of the footprint of the School and approximately 20 feet adjacent to all sides of the School, with an average thickness spanning 5.5 feet from 917 feet mean sea level (ft msl) (average groundwater elevation) to 911.5 ft msl (elevation of deepest contamination), and an assumed porosity of 0.25. See calculation below.

$$30,000 \text{ ft}^2 \times (917 \text{ ft msl} - 911.5 \text{ ft msl}) \times 0.025 \times 7.48 \text{ gallons/ft}^3 = 310,000 \text{ gallons}$$

**Table 15**  
**Groundwater Volumes Treated and NAPL Volumes Recovered in 2016 and 2017**  
**2017 Hot Water Flushing Remediation Performance Report**  
**Skykomish School**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

| Average Groundwater Temperature in Treatment Area (°F) | Reduction in NAPL Viscosity <sup>1</sup> (Percent) | 2016                      |  |  |                          | 2017                      |  |  |                          | 2016-2017 (Combined)      |  |  |                          |
|--|--|---------------------------|--|--|--------------------------|---------------------------|--|--|--------------------------|---------------------------|--|--|--------------------------|
|  |  | Treatment Duration (Days) | Groundwater Treated/ Flushed (Gallons) | Pore Volumes Treated/ Flushed <sup>2</sup> | NAPL Recovered (Gallons) | Treatment Duration (Days) | Groundwater Treated/ Flushed (Gallons) | Pore Volumes Treated/ Flushed <sup>2</sup> | NAPL Recovered (Gallons) | Treatment Duration (Days) | Groundwater Treated/ Flushed (Gallons) | Pore Volumes Treated/ Flushed <sup>2</sup> | NAPL Recovered (Gallons) |
| >60  | >35  | >140                      | 5,528,000                              | 17.8                                       | 40.2                     | >140                      | 8,382,000                              | 27.0                                       | 58.1                     | >280                      | 13,910,000                             | 44.9                                       | 98.3                     |
| >80  | >77  | 91                        | 4,207,000                              | 13.6                                       | 39.6                     | 101                       | 6,257,000                              | 20.2                                       | 55.3                     | 192                       | 10,464,000                             | 33.8                                       | 94.9                     |
| >100   | >90  | 34                        | 2,294,000                              | 7.4  | 17.3                     | 73                        | 4,576,000                              | 14.8                                       | 42.8                     | 107                       | 6,870,000                              | 22.2                                       | 60.1                     |
| ~130-140   | 97-98  | 0                         | 0                                      | 0  | 0                        | 35                        | 2,348,000                              | 7.6  | 25.5                     | 35                        | 2,348,000                              | 7.6  | 25.5                     |

**NOTES:**

<sup>1</sup> Relative to NAPL viscosity at 50°F.

<sup>2</sup> A pore volume is defined as the volume of water in the saturated portion of the groundwater-bearing zone within the treatment area. At the School Site, a pore volume consists of the footprint of the treatment area (30,000 square feet), multiplied by an average saturated-zone thickness of 5.5 feet (the difference between the average groundwater elevation and the elevation of the deepest contamination in the treatment area), multiplied by the estimated porosity of the groundwater-bearing zone (0.25):

$$\text{Pore volume} = (30,000 \text{ square feet})(5.5 \text{ feet})(0.25)(7.48 \text{ gallons/cubic foot}) = 310,000 \text{ gallons}$$

°F = degrees Fahrenheit

NAPL = nonaqueous-phase liquid

**APPENDIX A  
LABORATORY ANALYTICAL REPORTS  
FOR INDOOR AIR SAMPLES**

2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
Skykomish School  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington

Farallon PN: 683-067



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1703182  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 02/03/17  |

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
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**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1703182-01                | 012317_2SE       | AIR           | SKYKOMISH, WA              | 01/23/17 16:15                  | 01/31/17            |
| L1703182-02                | 012317_1C        | AIR           | SKYKOMISH, WA              | 01/23/17 16:13                  | 01/31/17            |
| L1703182-03                | 012317_1SE       | AIR           | SKYKOMISH, WA              | 01/23/17 16:15                  | 01/31/17            |
| L1703182-04                | 012317_BC        | AIR           | SKYKOMISH, WA              | 01/23/17 16:11                  | 01/31/17            |
| L1703182-05                | 012317_BSW       | AIR           | SKYKOMISH, WA              | 01/23/17 16:12                  | 01/31/17            |
| L1703182-06                | 012317_BNE       | AIR           | SKYKOMISH, WA              | 01/23/17 15:15                  | 01/31/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

---

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on January 10, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

Sample L1703182-01: Trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, tetrahydrofuran, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1703182-01: Benzaldehyde, 1,4-dichlorobenzene, limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1703182-02: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, hexanal, butyl acetate, hexamethylcyclotrisiloxane, heptanal and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1703182-02: Benzaldehyde, 1,4-dichlorobenzene, limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1703182-03: Trichlorofluoromethane, isopropyl alcohol, trimethylsilanol, tetrahydrofuran, hexanal, butyl acetate, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH HWF  
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### Case Narrative (continued)

Sample L1703182-03: Benzaldehyde, 1,4-dichlorobenzene, limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1703182-04: Trichlorofluoromethane, isopropyl alcohol, butanal, trimethylsilanol, 2-butanone, tetrahydrofuran, hexanal, butyl acetate, hexamethylcyclotrisiloxane, heptanal and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1703182-04: Benzaldehyde, 1,4-dichlorobenzene, limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1703182-05: Trichlorofluoromethane, isopropyl alcohol, 1-propanol, 2-butanone, tetrahydrofuran, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1703182-05: Benzaldehyde, 1,4-dichlorobenzene, limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1703182-06: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 4-methyl-2-pentanone, hexanal, heptanal, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1703182-06: Benzaldehyde, 1,4-dichlorobenzene, limonene, nonanal and unknown siloxanes are

**Project Name:** SKYKOMISH HWF  
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**Case Narrative (continued)**

present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 02/03/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1703182**Project Number:** 683-057**Report Date:** 02/03/17**SAMPLE RESULTS**

**Lab ID:** L1703182-01  
**Client ID:** 012317\_2SE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 02/02/17 17:31  
**Analyst:** MB

**Date Collected:** 01/23/17 16:15  
**Date Received:** 01/31/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.031   | 0.020 | --  | 0.069   | 0.044 | --  |           | 1               |
| Benzene   | 0.399   | 0.100 | --  | 1.27    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.055   | 0.050 | --  | 0.288   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 95         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 95         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1703182**Project Number:** 683-057**Report Date:** 02/03/17**SAMPLE RESULTS**

Lab ID: L1703182-02  
 Client ID: 012317\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 02/02/17 18:04  
 Analyst: MB

Date Collected: 01/23/17 16:13  
 Date Received: 01/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.033   | 0.020 | --  | 0.073   | 0.044 | --  |           | 1               |
| Benzene   | 0.382   | 0.100 | --  | 1.22    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.052   | 0.050 | --  | 0.273   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

### SAMPLE RESULTS

Lab ID: L1703182-03  
 Client ID: 012317\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 02/02/17 19:10  
 Analyst: MB

Date Collected: 01/23/17 16:15  
 Date Received: 01/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.021   | 0.020 | --  | 0.047   | 0.044 | --  |           | 1               |
| Benzene   | 0.327   | 0.100 | --  | 1.04    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 94         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1703182**Project Number:** 683-057**Report Date:** 02/03/17**SAMPLE RESULTS**

**Lab ID:** L1703182-04  
**Client ID:** 012317\_BC  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 02/02/17 19:43  
**Analyst:** MB

**Date Collected:** 01/23/17 16:11  
**Date Received:** 01/31/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.030   | 0.020 | --  | 0.066   | 0.044 | --  |           | 1               |
| Benzene   | 0.319   | 0.100 | --  | 1.02    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.055   | 0.050 | --  | 0.288   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1703182**Project Number:** 683-057**Report Date:** 02/03/17**SAMPLE RESULTS**

**Lab ID:** L1703182-05  
**Client ID:** 012317\_BSW  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 02/02/17 20:15  
**Analyst:** MB

**Date Collected:** 01/23/17 16:12  
**Date Received:** 01/31/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.023   | 0.020 | --  | 0.051   | 0.044 | --  |           | 1               |
| Benzene   | 0.256   | 0.100 | --  | 0.818   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.050   | 0.050 | --  | 0.262   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

### SAMPLE RESULTS

Lab ID: L1703182-06  
 Client ID: 012317\_BNE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 02/02/17 20:48  
 Analyst: MB

Date Collected: 01/23/17 15:15  
 Date Received: 01/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.024   | 0.020 | --  | 0.053   | 0.044 | --  |           | 1               |
| Benzene   | 0.323   | 0.100 | --  | 1.03    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 92         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1703182

Project Number: 683-057

Report Date: 02/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 02/02/17 14:09

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG974849-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1703182

Project Number: 683-057

Report Date: 02/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 02/02/17 14:09

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG974849-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1703182

Project Number: 683-057

Report Date: 02/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 02/02/17 14:09

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG974849-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

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### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 02/02/17 14:09

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG974849-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG974849-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 104              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1703182

Project Number: 683-057

Report Date: 02/03/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG974849-3 |                  |      |                   |      |                     |     |      |               |
| trans-1,2-Dichloroethene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate   | 125              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane   | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride  | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1703182

Project Number: 683-057

Report Date: 02/03/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG974849-3 |                  |      |                   |      |                     |     |      |               |
| cis-1,3-Dichloropropene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1703182

Report Date: 02/03/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG974849-3 |                  |      |                   |      |                     |     |      |               |
| 1,3,5-Trimethylbenzene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene   | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene  | 143              | Q    | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene   | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene  | 128              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene   | 141              | Q    | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1703182

Report Date: 02/03/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG974849-5 QC Sample: L1703182-02 Client ID: 012317_1C |               |                  |       |     |      |            |
| 1,3-Butadiene   | 0.033         | 0.029            | ppbV  | 13  |      | 25         |
| Benzene   | 0.382         | 0.385            | ppbV  | 1   |      | 25         |
| Naphthalene   | 0.052         | 0.054            | ppbV  | 4   |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1703182

Project Number: 683-057

Report Date: 02/03/17

**SAMPLE RESULTS**

Lab ID: L1703182-01  
 Client ID: 012317\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 02/02/17 17:31  
 Analyst: MB

Date Collected: 01/23/17 16:15  
 Date Received: 01/31/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 56     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.9    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.2    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 91         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1703182

Project Number: 683-057

Report Date: 02/03/17

**SAMPLE RESULTS**

Lab ID: L1703182-02  
 Client ID: 012317\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 02/02/17 18:04  
 Analyst: MB

Date Collected: 01/23/17 16:13  
 Date Received: 01/31/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 62     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 0.92   |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 14     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 90         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 93         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

**SAMPLE RESULTS**

Lab ID: L1703182-03  
 Client ID: 012317\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 02/02/17 19:10  
 Analyst: MB

Date Collected: 01/23/17 16:15  
 Date Received: 01/31/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 38     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 0.91   |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.3    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 89         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

**SAMPLE RESULTS**

Lab ID: L1703182-04  
 Client ID: 012317\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 02/02/17 19:43  
 Analyst: MB

Date Collected: 01/23/17 16:11  
 Date Received: 01/31/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 41     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 50-200              |
| Bromochloromethane  | 96         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

**SAMPLE RESULTS**

Lab ID: L1703182-05  
 Client ID: 012317\_BSW  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 02/02/17 20:15  
 Analyst: MB

Date Collected: 01/23/17 16:12  
 Date Received: 01/31/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.83   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 31     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 83         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

**SAMPLE RESULTS**

Lab ID: L1703182-06  
 Client ID: 012317\_BNE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 02/02/17 20:48  
 Analyst: MB

Date Collected: 01/23/17 15:15  
 Date Received: 01/31/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.0    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 63     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.6    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.93   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 14     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 87         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 91         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 02/02/17 14:09  
Analyst: RY

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG974848-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1703182

Report Date: 02/03/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG974848-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene   | 92               |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether   | 95               |      | -                 |      | 70-130              | -   |      |               |
| Benzene   | 90               |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted  | 92               |      | -                 |      | 70-130              | -   |      |               |
| Toluene   | 88               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene  | 110              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene  | 104              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene  | 99               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene   | 115              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted   | 93               |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total  | 80               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1703182

Report Date: 02/03/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG974848-5 QC Sample: L1703182-02 Client ID: 012317_1C |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.2           | 1.3              | ug/m3 | 8   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 62            | 64               | ug/m3 | 3   |      | 30         |
| Toluene   | 6.4           | 7.1              | ug/m3 | 10  |      | 30         |
| Ethylbenzene  | 0.92          | 1.1              | ug/m3 | 18  |      | 30         |
| p/m-Xylene  | 3.8           | 4.6              | ug/m3 | 19  |      | 30         |
| o-Xylene  | 1.2           | 1.4              | ug/m3 | 15  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 14            | 16               | ug/m3 | 13  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Project Number: 683-057

Serial\_No:02031715:31  
Lab Number: L1703182

Report Date: 02/03/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1703182-01 | 012317_2SE | 0409     | Flow 5     | 01/10/17      | 234961       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1703182-01 | 012317_2SE | 155      | 2.7L Can   | 01/10/17      | 234961       | L1700482-01       | Pass           | -30.0                     | -4.2                         | -                        | -               | -              | -     |
| L1703182-02 | 012317_1C  | 0008     | Flow 5     | 01/10/17      | 234961       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.4            | 0     |
| L1703182-02 | 012317_1C  | 233      | 2.7L Can   | 01/10/17      | 234961       | L1700482-01       | Pass           | -30.0                     | -8.5                         | -                        | -               | -              | -     |
| L1703182-03 | 012317_1SE | 0586     | Flow 5     | 01/10/17      | 234961       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1703182-03 | 012317_1SE | 2182     | 2.7L Can   | 01/10/17      | 234961       | L1700482-01       | Pass           | -30.0                     | -6.7                         | -                        | -               | -              | -     |
| L1703182-04 | 012317_BC  | 0155     | Flow 5     | 01/10/17      | 234961       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.3            | 0     |
| L1703182-04 | 012317_BC  | 536      | 2.7L Can   | 01/10/17      | 234961       | L1700482-01       | Pass           | -30.0                     | -8.2                         | -                        | -               | -              | -     |
| L1703182-05 | 012317_BSW | 0327     | Flow 5     | 01/10/17      | 234961       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1703182-05 | 012317_BSW | 491      | 2.7L Can   | 01/10/17      | 234961       | L1700482-01       | Pass           | -30.0                     | -6.8                         | -                        | -               | -              | -     |
| L1703182-06 | 012317_BNE | 0968     | Flow 5     | 01/10/17      | 234961       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.1            | 13    |
| L1703182-06 | 012317_BNE | 377      | 2.7L Can   | 01/10/17      | 234961       | L1700482-01       | Pass           | -29.1                     | -0.6                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01  
 Client ID: CAN 248 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/06/17 10:32  
 Analyst: MB

Date Collected: 01/05/17 16:00  
 Date Received: 01/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01 Date Collected: 01/05/17 16:00  
 Client ID: CAN 248 SHELF 2 Date Received: 01/06/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01 Date Collected: 01/05/17 16:00  
 Client ID: CAN 248 SHELF 2 Date Received: 01/06/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01  
 Client ID: CAN 248 SHELF 2  
 Sample Location:

Date Collected: 01/05/17 16:00  
 Date Received: 01/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01 Date Collected: 01/05/17 16:00  
 Client ID: CAN 248 SHELF 2 Date Received: 01/06/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 60-140              |
| Bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01  
 Client ID: CAN 248 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 01/06/17 10:32  
 Analyst: RY

Date Collected: 01/05/17 16:00  
 Date Received: 01/06/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01  
 Client ID: CAN 248 SHELF 2  
 Sample Location:

Date Collected: 01/05/17 16:00  
 Date Received: 01/06/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1700482  
**Report Date:** 02/03/17

### Air Canister Certification Results

Lab ID: L1700482-01 Date Collected: 01/05/17 16:00  
 Client ID: CAN 248 SHELF 2 Date Received: 01/06/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1700482**Project Number:** CANISTER QC BAT**Report Date:** 02/03/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1700482-01  
**Client ID:** CAN 248 SHELF 2  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 01/06/17 10:32  
**Analyst:** MB

**Date Collected:** 01/05/17 16:00  
**Date Received:** 01/06/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF**Lab Number:** L1703182**Project Number:** 683-057**Report Date:** 02/03/17**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information Custody Seal****Cooler**

N/A Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------|-----------------------|-------------|-------------|-------------------------|
| L1703182-01A        | Canister - 2.7 Liter  | N/A           | N/A       |                       | Y           | Absent      | APH-10(30),TO15-SIM(30) |
| L1703182-02A        | Canister - 2.7 Liter  | N/A           | N/A       |                       | Y           | Absent      | APH-10(30),TO15-SIM(30) |
| L1703182-03A        | Canister - 2.7 Liter  | N/A           | N/A       |                       | Y           | Absent      | APH-10(30),TO15-SIM(30) |
| L1703182-04A        | Canister - 2.7 Liter  | N/A           | N/A       |                       | Y           | Absent      | APH-10(30),TO15-SIM(30) |
| L1703182-05A        | Canister - 2.7 Liter  | N/A           | N/A       |                       | Y           | Absent      | APH-10(30),TO15-SIM(30) |
| L1703182-06A        | Canister - 2.7 Liter  | N/A           | N/A       |                       | Y           | Absent      | APH-10(30),TO15-SIM(30) |

\*Values in parentheses indicate holding time in days

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

#### Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
  - D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
  - E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
  - G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
  - H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
  - I** - The lower value for the two columns has been reported due to obvious interference.
  - M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
  - NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
  - P** - The RPD between the results for the two columns exceeds the method-specified criteria.
  - Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
  - R** - Analytical results are from sample re-analysis.
  - RE** - Analytical results are from sample re-extraction.
  - S** - Analytical results are from modified screening analysis.
  - J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
  - ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1703182  
**Report Date:** 02/03/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

CHAIN OF CUSTODY

PAGE 1 OF 1

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 608-822-9300 FAX: 608-822-3288

**Client Information**  
 Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027  
 Phone: 425-295-0800  
 Fax: 425-295-0850  
 Email: avining@farallonconsulting.com

**Project Information**  
 Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington  
 Project #: 683-057  
 Project Manager: Andrew Vining  
 ALPHA Quote #:  
**Turn-Around-Time**  
 Standard  Rush (only confirmed if pre-approved)  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: 11/31/17 ALPHA Job #: L1703182  
**Report/Data Deliverables Information**  
 FAX  EMAIL  
 ADEx  Add'l Deliverables  
**Billing Information**  
 Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |
|           |         |                        |

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments:  
 Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

## Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs   | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |

**All Columns Below Must Be Filled Out**

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |                          |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|-------------------------------------|--------------------------|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                                     |                          |
| 03182.01           | 012317_2SE | 1/23/17    | 8:40       | 16:15    | 28.28       | 3.60      | AA             | AV               | 2.7      | 155    | 0409               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |                          |
| 02                 | 012317_1C  | ↓          | 8:47       | 16:13    | 29.20       | 7.77      | AA             | AV               | 2.7      | 233    | 0008               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |                          |
| 03                 | 012317_1SE |            | 8:48       | 16:15    | 28.99       | 6.33      | AA             | AV               | 2.7      | 2182   | 0586               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |                          |
| 04                 | 012317_BC  |            | 8:50       | 16:11    | 29.17       | 8.25      | AA             | AV               | 2.7      | 536    | 155                | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |                          |
| 05                 | 012317_BSW |            | 8:50       | 16:12    | 28.98       | 6.39      | AA             | AV               | 2.7      | 491    | 327                | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |                          |
| 06                 | 012317_BNE |            | 8:48       | 15:15    | 26.82       | 0.14      | AA             | AV               | 2.7      | 377    | 0968               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |                          |
|                    |            |            |            |          |             |           |                |                  |          |        |                    |                          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            | <input type="checkbox"/> |

**\*SAMPLE MATRIX CODES:**  
 AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

| Relinquished By | Date/Time    | Received By:  | Date/Time     |
|-----------------|--------------|---------------|---------------|
| AV<br>UPS       | 1/23/17 1700 | UPS<br>Van... | 1/24/17 17:00 |
|                 |              |               | 1/31/17 1300  |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1706504  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 03/09/17  |

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1706504-01                | 022217_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 02/22/17 16:07                  | 03/02/17            |
| L1706504-02                | 022217_1C        | AIR           | SKYKOMISH, WASHINGTON      | 02/22/17 16:05                  | 03/02/17            |
| L1706504-03                | 022217_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 02/22/17 16:06                  | 03/02/17            |
| L1706504-04                | 022217_BC        | AIR           | SKYKOMISH, WASHINGTON      | 02/22/17 16:08                  | 03/02/17            |
| L1706504-05                | 022217_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 02/22/17 16:09                  | 03/02/17            |
| L1706504-06                | 022217_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 02/22/17 16:10                  | 03/02/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on February 15, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1706504-01: Isopropyl alcohol, trimethylsilanol, 2-butanone, ethoxytrimethylsilane, acetic acid, hexanal, butyl acetate, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1706504-01: 1,4-Dichlorobenzene, limonene and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1706504-02, -03, -04, and -05: Isopropyl alcohol, trimethylsilanol, 2-butanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1706504-02, -04, -05, and -06: 1,4-Dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1706504-03: 1,4-Dichlorobenzene, limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1706504-06: Isopropyl alcohol, trimethylsilanol, 2-butanone, hexanal, butyl acetate,

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

**Case Narrative (continued)**

hexamethylcyclotrisiloxane, heptanal and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 03/09/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1706504**Project Number:** 683-057**Report Date:** 03/09/17**SAMPLE RESULTS**

**Lab ID:** L1706504-01  
**Client ID:** 022217\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 03/02/17 21:21  
**Analyst:** MB

**Date Collected:** 02/22/17 16:07  
**Date Received:** 03/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.024   | 0.020 | --  | 0.053   | 0.044 | --  |           | 1               |
| Benzene   | 0.514   | 0.100 | --  | 1.64    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 82         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 95         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

### SAMPLE RESULTS

Lab ID: L1706504-02  
 Client ID: 022217\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 03/02/17 21:54  
 Analyst: MB

Date Collected: 02/22/17 16:05  
 Date Received: 03/02/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.022   | 0.020 | --  | 0.049   | 0.044 | --  |           | 1               |
| Benzene   | 0.444   | 0.100 | --  | 1.42    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1706504**Project Number:** 683-057**Report Date:** 03/09/17**SAMPLE RESULTS**

**Lab ID:** L1706504-03  
**Client ID:** 022217\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 03/02/17 22:59  
**Analyst:** MB

**Date Collected:** 02/22/17 16:06  
**Date Received:** 03/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.383   | 0.100 | --  | 1.22    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 81         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

### SAMPLE RESULTS

Lab ID: L1706504-04  
 Client ID: 022217\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 03/02/17 23:32  
 Analyst: MB

Date Collected: 02/22/17 16:08  
 Date Received: 03/02/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.020   | 0.020 | --  | 0.044   | 0.044 | --  |           | 1               |
| Benzene   | 0.322   | 0.100 | --  | 1.03    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 79         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

### SAMPLE RESULTS

Lab ID: L1706504-05  
 Client ID: 022217\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 03/03/17 00:04  
 Analyst: MB

Date Collected: 02/22/17 16:09  
 Date Received: 03/02/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.243   | 0.100 | --  | 0.776   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.051   | 0.050 | --  | 0.267   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1706504**Project Number:** 683-057**Report Date:** 03/09/17**SAMPLE RESULTS**

**Lab ID:** L1706504-06  
**Client ID:** 022217\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 03/03/17 00:37  
**Analyst:** MB

**Date Collected:** 02/22/17 16:10  
**Date Received:** 03/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.034   | 0.020 | --  | 0.075   | 0.044 | --  |           | 1               |
| Benzene   | 0.321   | 0.100 | --  | 1.03    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 03/02/17 13:56

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG982413-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 03/02/17 13:56

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG982413-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 03/02/17 13:56

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG982413-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 03/02/17 13:56

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG982413-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG982413-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

| Parameter   | LCS       |      | LCSD      |      | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|-----------|------|-----------|------|---------------------|-----|------|---------------|
|   | %Recovery | Qual | %Recovery | Qual |                     |     |      |               |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG982413-3 |           |      |           |      |                     |     |      |               |
| trans-1,2-Dichloroethene  | 94        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 97        |      | -         |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether   | 91        |      | -         |      | 70-130              | -   |      | 25            |
| Vinyl acetate   | 105       |      | -         |      | 70-130              | -   |      | 25            |
| 2-Butanone  | 91        |      | -         |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene  | 95        |      | -         |      | 70-130              | -   |      | 25            |
| Ethyl Acetate   | 98        |      | -         |      | 70-130              | -   |      | 25            |
| Chloroform  | 96        |      | -         |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran   | 90        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane  | 95        |      | -         |      | 70-130              | -   |      | 25            |
| n-Hexane  | 83        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane   | 94        |      | -         |      | 70-130              | -   |      | 25            |
| Benzene   | 88        |      | -         |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride  | 97        |      | -         |      | 70-130              | -   |      | 25            |
| Cyclohexane   | 87        |      | -         |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>   | 82        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane   | 91        |      | -         |      | 70-130              | -   |      | 25            |
| Bromodichloromethane  | 97        |      | -         |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane   | 93        |      | -         |      | 70-130              | -   |      | 25            |
| Trichloroethene   | 90        |      | -         |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane  | 88        |      | -         |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG982413-3 |                  |      |                   |      |                     |     |      |               |
| cis-1,3-Dichloropropene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1706504

Report Date: 03/09/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG982413-3 |                  |      |                   |      |                     |     |      |               |
| 1,3,5-Trimethylbenzene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene  | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene  | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1706504

Report Date: 03/09/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG982413-5 QC Sample: L1706504-02 Client ID: 022217_1C |               |                  |       |     |      |            |
| 1,3-Butadiene   | 0.022         | 0.022            | ppbV  | 0   |      | 25         |
| Benzene   | 0.444         | 0.474            | ppbV  | 7   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

## SAMPLE RESULTS

Lab ID: L1706504-01  
 Client ID: 022217\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 03/02/17 21:21  
 Analyst: MB

Date Collected: 02/22/17 16:07  
 Date Received: 03/02/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.9    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 79     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 9.3    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.1    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.6    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 10     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 85         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 96         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

**SAMPLE RESULTS**

Lab ID: L1706504-02  
 Client ID: 022217\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 03/02/17 21:54  
 Analyst: MB

Date Collected: 02/22/17 16:05  
 Date Received: 03/02/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.6    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 60     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 8.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 95         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

**SAMPLE RESULTS**

Lab ID: L1706504-03  
 Client ID: 022217\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 03/02/17 22:59  
 Analyst: MB

Date Collected: 02/22/17 16:06  
 Date Received: 03/02/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.4    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 44     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.91   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 83         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 93         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

**SAMPLE RESULTS**

Lab ID: L1706504-04  
 Client ID: 022217\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 03/02/17 23:32  
 Analyst: MB

Date Collected: 02/22/17 16:08  
 Date Received: 03/02/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 74     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 10     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 3.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 12     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 4.2    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 75     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | 14     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 80         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 93         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

## SAMPLE RESULTS

Lab ID: L1706504-05  
 Client ID: 022217\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 03/03/17 00:04  
 Analyst: MB

Date Collected: 02/22/17 16:09  
 Date Received: 03/02/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.93   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 58     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 80         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 89         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

**SAMPLE RESULTS**

Lab ID: L1706504-06  
 Client ID: 022217\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 03/03/17 00:37  
 Analyst: MB

Date Collected: 02/22/17 16:10  
 Date Received: 03/02/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | 4.6    |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 62     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.7    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.93   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 26     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 87         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 03/02/17 13:56  
Analyst: MB

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG982415-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

| <b>Parameter</b>  | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|---|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG982415-3 |                          |             |                           |             |                             |            |             |                       |
| 1,3-Butadiene   | 116                      |             | -                         |             | 70-130                      | -          |             |                       |
| Methyl tert butyl ether   | 89                       |             | -                         |             | 70-130                      | -          |             |                       |
| Benzene   | 105                      |             | -                         |             | 70-130                      | -          |             |                       |
| C5-C8 Aliphatics, Adjusted  | 93                       |             | -                         |             | 70-130                      | -          |             |                       |
| Toluene   | 98                       |             | -                         |             | 70-130                      | -          |             |                       |
| Ethylbenzene  | 99                       |             | -                         |             | 70-130                      | -          |             |                       |
| p/m-Xylene  | 98                       |             | -                         |             | 70-130                      | -          |             |                       |
| o-Xylene  | 102                      |             | -                         |             | 70-130                      | -          |             |                       |
| Naphthalene   | 134                      |             | -                         |             | 50-150                      | -          |             |                       |
| C9-C12 Aliphatics, Adjusted   | 108                      |             | -                         |             | 70-130                      | -          |             |                       |
| C9-C10 Aromatics Total  | 91                       |             | -                         |             | 70-130                      | -          |             |                       |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1706504

Report Date: 03/09/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG982415-5 QC Sample: L1706504-02 Client ID: 022217_1C |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.6           | 1.8              | ug/m3 | 12  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 60            | 68               | ug/m3 | 13  |      | 30         |
| Toluene   | 8.1           | 8.2              | ug/m3 | 1   |      | 30         |
| Ethylbenzene  | 1.0           | 1.1              | ug/m3 | 10  |      | 30         |
| p/m-Xylene  | 4.1           | 4.2              | ug/m3 | 2   |      | 30         |
| o-Xylene  | 1.2           | 1.3              | ug/m3 | 8   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:03091717:01  
Lab Number: L1706504

Project Number: 683-057

Report Date: 03/09/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1706504-01 | 022217_2SE | 0382     | Flow 5     | 02/16/17      | 236892       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.3            | 5     |
| L1706504-01 | 022217_2SE | 2021     | 2.7L Can   | 02/16/17      | 236892       | L1704418-01       | Pass           | -28.9                     | -6.6                         | -                        | -               | -              | -     |
| L1706504-02 | 022217_1C  | 0331     | Flow 5     | 02/16/17      | 236892       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1706504-02 | 022217_1C  | 2042     | 2.7L Can   | 02/16/17      | 236892       | L1704418-01       | Pass           | -28.6                     | -5.4                         | -                        | -               | -              | -     |
| L1706504-03 | 022217_1SE | 0400     | Flow 5     | 02/16/17      | 236892       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.5            | 0     |
| L1706504-03 | 022217_1SE | 2221     | 2.7L Can   | 02/16/17      | 236892       | L1704418-01       | Pass           | -28.0                     | -4.5                         | -                        | -               | -              | -     |
| L1706504-04 | 022217_BC  | 0470     | Flow 5     | 02/16/17      | 236892       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.5            | 2     |
| L1706504-04 | 022217_BC  | 152      | 2.7L Can   | 02/16/17      | 236892       | L1704418-01       | Pass           | -28.0                     | -5.1                         | -                        | -               | -              | -     |
| L1706504-05 | 022217_BSW | 0640     | Flow 4     | 02/16/17      | 236892       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.2            | 2     |
| L1706504-05 | 022217_BSW | 502      | 2.7L Can   | 02/16/17      | 236892       | L1704418-01       | Pass           | -28.8                     | -7.5                         | -                        | -               | -              | -     |
| L1706504-06 | 022217_BNE | 0497     | Flow 5     | 02/16/17      | 236892       |                   | -              | -                         | -                            | Pass                     | 4.5             | 3.9            | 14    |
| L1706504-06 | 022217_BNE | 404      | 2.7L Can   | 02/16/17      | 236892       | L1704418-01       | Pass           | -28.9                     | -8.5                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01  
 Client ID: CAN 1736 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 02/13/17 22:57  
 Analyst: MB

Date Collected: 02/10/17 16:00  
 Date Received: 02/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01  
 Client ID: CAN 1736 SHELF 1  
 Sample Location:

Date Collected: 02/10/17 16:00  
 Date Received: 02/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01  
 Client ID: CAN 1736 SHELF 1  
 Sample Location:

Date Collected: 02/10/17 16:00  
 Date Received: 02/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01  
 Client ID: CAN 1736 SHELF 1  
 Sample Location:

Date Collected: 02/10/17 16:00  
 Date Received: 02/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01 Date Collected: 02/10/17 16:00  
 Client ID: CAN 1736 SHELF 1 Date Received: 02/12/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 60-140              |
| Bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 101        |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01  
 Client ID: CAN 1736 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 02/13/17 22:57  
 Analyst: MB

Date Collected: 02/10/17 16:00  
 Date Received: 02/12/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01  
 Client ID: CAN 1736 SHELF 1  
 Sample Location:

Date Collected: 02/10/17 16:00  
 Date Received: 02/12/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1704418  
**Report Date:** 03/09/17

### Air Canister Certification Results

Lab ID: L1704418-01  
 Client ID: CAN 1736 SHELF 1  
 Sample Location:

Date Collected: 02/10/17 16:00  
 Date Received: 02/12/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 103        |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1704418**Project Number:** CANISTER QC BAT**Report Date:** 03/09/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1704418-01  
**Client ID:** CAN 1736 SHELF 1  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 02/13/17 22:57  
**Analyst:** MB

**Date Collected:** 02/10/17 16:00  
**Date Received:** 02/12/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF**Project Number:** 683-057**Lab Number:** L1706504**Report Date:** 03/09/17**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information Custody Seal****Cooler**

N/A Present/Intact

**Container Information**

| Container ID | Container Type       | Cooler | pH  | Temp<br>deg C | Pres | Seal   | Analysis(*)             |
|--------------|----------------------|--------|-----|---------------|------|--------|-------------------------|
| L1706504-01A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1706504-02A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1706504-03A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1706504-04A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1706504-05A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1706504-06A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |

\*Values in parentheses indicate holding time in days

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

#### Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
  - D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
  - E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
  - G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
  - H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
  - I** - The lower value for the two columns has been reported due to obvious interference.
  - M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
  - NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
  - P** - The RPD between the results for the two columns exceeds the method-specified criteria.
  - Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
  - R** - Analytical results are from sample re-analysis.
  - RE** - Analytical results are from sample re-extraction.
  - S** - Analytical results are from modified screening analysis.
  - J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
  - ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1706504  
**Report Date:** 03/09/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

## AIR ANALYSIS

PAGE 1 OF 1



**ALPHA ANALYTICAL**

320 Forbes Blvd, Mansfield, MA 02048  
TEL: 508-822-9300 FAX: 508-822-3288

### CHAIN OF CUSTODY

| Project Information                           | Project Name: Skykomish HWF  |
|---|--|
| Project Location: Skykomish, Washington       | Project #: 683-057   |
| Client: Farallon Consulting                   | Project Manager: Andrew Vining   |
| Address: 975 5 <sup>th</sup> Avenue Northwest | ALPHA Quote #:   |
| Issaquah, Washington 98027                    | Turn-Around-Time   |
| Phone: 425-295-0800                           | <input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush (only confirmed if pre-approved) |
| Fax: 425-295-0850                             | Date Due: _____ Time: _____  |
| Email: avining@farallonconsulting.com         |  |

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments:  
 Project-Specific Target Compound List  
~~DATE TURNAROUND~~  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

| Date Rec'd in Lab: 3/2/17  | ALPHA Job #: L706504  |
|--|---|
| Report/Data Deliverables Information   | Billing Information   |
| <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL<br><input type="checkbox"/> ADEx <input type="checkbox"/> Add'l Deliverables | <input type="checkbox"/> Same as Client info <input type="checkbox"/> PO #: |
| Regulatory Requirements/Report Limits  |   |
| State/Fed  | Program   |
| Residential/Commercial   |   |

**All Columns Below Must Be Filled Out**

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs   | FIXED GASES              | Sulfides & Mercaptans by TO-15 |                          |                          | Sample Specific Comments<br>(i.e. PID) |  |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|--|--|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                          |                          |  |  |
| 6504-01            | 022217_2SE | 2/22/17    | 807        | 1607     | 29.12       | 6.27      | AA             | MB               | 2.7      | 2021   | 0382               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
| -07                | 022217_1C  | 2/24/17    | 805        | 1605     | 29.01       | 4.98      | AA             | MB               | 2.7      | 2072   | 0331               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
| -03                | 022217_1SE | ↓          | 806        | 1606     | 27.92       | 4.87      | AA             | MB               | 2.7      | 2221   | 0400               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
| -04                | 022217_BC  |            | 808        | 1608     | 27.70       | 4.90      | AA             | MB               | 2.7      | 152    | 0470               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
| -05                | 022217_BSW |            | 809        | 1609     | 28.60       | 7.08      | AA             | MB               | 2.7      | 502    | 0640               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
| -06                | 022217_BNE |            | 810        | 1610     | 29.29       | 8.10      | AA             | MB               | 2.7      | 404    | 0497               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
|                    |            |            |            |          |             |           |                |                  |          |        |                    | Container Type           | -                                   | -                                   | -                        | -                              | -                        | -                        | -                                      |  |

**\*SAMPLE MATRIX CODES:**  
 AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev. 25-Sept-15

|                         |           |                            |              |
|-------------------------|-----------|----------------------------|--------------|
| Relinquished By         | Date/Time | Received By:               | Date/Time    |
| <i>M. Burr</i><br>Fedex | 2/23/17   | <i>Feder</i><br>Beth Beald | 3/2/17 10:58 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1710066  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 04/05/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1710066-01                | 032817_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 03/28/17 16:22                  | 04/03/17            |
| L1710066-02                | 032817_1C        | AIR           | SKYKOMISH, WASHINGTON      | 03/28/17 13:41                  | 04/03/17            |
| L1710066-03                | 032817_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 03/28/17 16:21                  | 04/03/17            |
| L1710066-04                | 032817_BC        | AIR           | SKYKOMISH, WASHINGTON      | 03/28/17 16:19                  | 04/03/17            |
| L1710066-05                | 032817_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 03/28/17 16:20                  | 04/03/17            |
| L1710066-06                | 032817_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 03/28/17 16:18                  | 04/03/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on March 20, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1710066-01: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 1-butanol, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane and heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1710066-01: Benzaldehyde, limonene, nonanal, 1,4-dichlorobenzene and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1710066-02: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 1-butanol, trichloroethene, 4-methyl-2-pentanone, hexanal, butyl acetate, tetrachloroethene, hexamethylcyclotrisiloxane and heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1710066-02: Benzaldehyde, limonene, nonanal, 1,4-dichlorobenzene and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1710066-03: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 1-butanol, 4-methyl-2-pentanone, hexanal, butyl acetate, furfural, hexamethylcyclotrisiloxane and heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

### Case Narrative (continued)

L1710066-03: Benzaldehyde, limonene, nonanal, 1,4-dichlorobenzene and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1710066-04: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane and cyclohexanone are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1710066-04: Benzaldehyde, limonene, nonanal, 1,4-dichlorobenzene and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1710066-05: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 1-butanol, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane, cyclohexanone and heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1710066-05: Benzaldehyde, limonene, nonanal, 1,4-dichlorobenzene and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1710066-06: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 1-butanol, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane and heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1710066-06: Benzaldehyde, limonene, beta-pinene, nonanal and unknown siloxanes are present in the C9-

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

**Case Narrative (continued)**

C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 04/05/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1710066**Project Number:** 683-057**Report Date:** 04/05/17**SAMPLE RESULTS**

**Lab ID:** L1710066-01  
**Client ID:** 032817\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 04/04/17 21:36  
**Analyst:** MB

**Date Collected:** 03/28/17 16:22  
**Date Received:** 04/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.636   | 0.100 | --  | 2.03    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.076   | 0.050 | --  | 0.398   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 93         |           | 60-140              |
| bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1710066**Project Number:** 683-057**Report Date:** 04/05/17**SAMPLE RESULTS**

Lab ID: L1710066-02  
 Client ID: 032817\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 04/04/17 22:46  
 Analyst: MB

Date Collected: 03/28/17 13:41  
 Date Received: 04/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.541   | 0.100 | --  | 1.73    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.058   | 0.050 | --  | 0.304   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 92         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1710066**Project Number:** 683-057**Report Date:** 04/05/17**SAMPLE RESULTS**

**Lab ID:** L1710066-03  
**Client ID:** 032817\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 04/04/17 23:21  
**Analyst:** MB

**Date Collected:** 03/28/17 16:21  
**Date Received:** 04/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.417   | 0.100 | --  | 1.33    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.060   | 0.050 | --  | 0.315   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1710066**Project Number:** 683-057**Report Date:** 04/05/17**SAMPLE RESULTS**

**Lab ID:** L1710066-04  
**Client ID:** 032817\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 04/04/17 23:56  
**Analyst:** MB

**Date Collected:** 03/28/17 16:19  
**Date Received:** 04/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.353   | 0.100 | --  | 1.13    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.058   | 0.050 | --  | 0.304   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1710066**Project Number:** 683-057**Report Date:** 04/05/17**SAMPLE RESULTS**

**Lab ID:** L1710066-05  
**Client ID:** 032817\_BSW  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 04/05/17 00:30  
**Analyst:** MB

**Date Collected:** 03/28/17 16:20  
**Date Received:** 04/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.312   | 0.100 | --  | 0.997   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.086   | 0.050 | --  | 0.451   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1710066**Project Number:** 683-057**Report Date:** 04/05/17**SAMPLE RESULTS**

**Lab ID:** L1710066-06  
**Client ID:** 032817\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 04/05/17 01:05  
**Analyst:** MB

**Date Collected:** 03/28/17 16:18  
**Date Received:** 04/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.259   | 0.100 | --  | 0.827   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 92         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 04/04/17 14:24

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG991031-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 04/04/17 14:24

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG991031-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 04/04/17 14:24

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG991031-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 04/04/17 14:24

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG991031-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG991031-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>   | 75               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 78               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG991031-3 |                  |      |                   |      |                     |     |      |               |
| trans-1,2-Dichloroethene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>   | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG991031-3 |                  |      |                   |      |                     |     |      |               |
| cis-1,3-Dichloropropene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1710066

Report Date: 04/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG991031-3 |                  |      |                   |      |                     |     |      |               |
| 1,3,5-Trimethylbenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1710066

Report Date: 04/05/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG991031-5 QC Sample: L1710066-01 Client ID: 032817_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | 0.636         | 0.632            | ppbV  | 1   |      | 25         |
| Naphthalene  | 0.076         | 0.074            | ppbV  | 3   |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

**SAMPLE RESULTS**

Lab ID: L1710066-01  
 Client ID: 032817\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 04/04/17 21:36  
 Analyst: MB

Date Collected: 03/28/17 16:22  
 Date Received: 04/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 2.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 79     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 14     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 2.2    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 8.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 2.8    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 50-200              |
| Bromochloromethane  | 94         |           | 50-200              |
| Chlorobenzene-d5    | 92         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

**SAMPLE RESULTS**

Lab ID: L1710066-02  
 Client ID: 032817\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 04/04/17 22:46  
 Analyst: MB

Date Collected: 03/28/17 13:41  
 Date Received: 04/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.9    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 73     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 13     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 2.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 8.2    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 2.4    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 90         |           | 50-200              |
| Bromochloromethane  | 92         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

**SAMPLE RESULTS**

Lab ID: L1710066-03  
 Client ID: 032817\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 04/04/17 23:21  
 Analyst: MB

Date Collected: 03/28/17 16:21  
 Date Received: 04/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.4    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 49     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 9.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 6.2    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 2.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

**SAMPLE RESULTS**

Lab ID: L1710066-04  
 Client ID: 032817\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 04/04/17 23:56  
 Analyst: MB

Date Collected: 03/28/17 16:19  
 Date Received: 04/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 32     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 7.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 5.3    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.6    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 83         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

**SAMPLE RESULTS**

Lab ID: L1710066-05  
 Client ID: 032817\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 04/05/17 00:30  
 Analyst: MB

Date Collected: 03/28/17 16:20  
 Date Received: 04/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.0    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 39     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.3    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.4    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

**SAMPLE RESULTS**

Lab ID: L1710066-06  
 Client ID: 032817\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 04/05/17 01:05  
 Analyst: MB

Date Collected: 03/28/17 16:18  
 Date Received: 04/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.87   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 52     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 21     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.6    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 6.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 48     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 92         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 88         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 04/04/17 13:49  
Analyst: MB

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG991030-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1710066

Report Date: 04/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG991030-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene   | 103              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether   | 99               |      | -                 |      | 70-130              | -   |      |               |
| Benzene   | 105              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted  | 105              |      | -                 |      | 70-130              | -   |      |               |
| Toluene   | 105              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene  | 105              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene  | 106              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene  | 107              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene   | 128              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted   | 104              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total  | 94               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1710066

Report Date: 04/05/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG991030-5 QC Sample: L1710066-01 Client ID: 032817_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | 2.2           | 2.1              | ug/m3 | 5   |      | 30         |
| C5-C8 Aliphatics, Adjusted   | 79            | 78               | ug/m3 | 1   |      | 30         |
| Toluene  | 14            | 14               | ug/m3 | 0   |      | 30         |
| Ethylbenzene   | 2.2           | 2.2              | ug/m3 | 0   |      | 30         |
| p/m-Xylene   | 8.8           | 8.8              | ug/m3 | 0   |      | 30         |
| o-Xylene   | 2.8           | 2.6              | ug/m3 | 7   |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:04051716:37  
Lab Number: L1710066

Project Number: 683-057

Report Date: 04/05/17

Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1710066-01 | 032817_2SE | 0443     | Flow 5     | 03/20/17      | 238350       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1710066-01 | 032817_2SE | 397      | 2.7L Can   | 03/20/17      | 238350       | L1707930-01       | Pass           | -30.0                     | -4.0                         | -                        | -               | -              | -     |
| L1710066-02 | 032817_1C  | 0841     | Flow 5     | 03/20/17      | 238350       |                   | -              | -                         | -                            | Pass                     | 4.5             | 7.3            | 47    |
| L1710066-02 | 032817_1C  | 2357     | 2.7L CAN   | 03/20/17      | 238350       | L1707930-01       | Pass           | -30.0                     | -6.6                         | -                        | -               | -              | -     |
| L1710066-03 | 032817_1SE | 0298     | Flow 5     | 03/20/17      | 238350       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.1            | 9     |
| L1710066-03 | 032817_1SE | 187      | 2.7L Can   | 03/20/17      | 238350       | L1707930-01       | Pass           | -30.0                     | -8.4                         | -                        | -               | -              | -     |
| L1710066-04 | 032817_BC  | 0586     | Flow 5     | 03/20/17      | 238350       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1710066-04 | 032817_BC  | 2023     | 2.7L Can   | 03/20/17      | 238350       | L1707930-01       | Pass           | -30.0                     | -7.6                         | -                        | -               | -              | -     |
| L1710066-05 | 032817_BSW | 0496     | Flow 5     | 03/20/17      | 238350       |                   | -              | -                         | -                            | Pass                     | 4.1             | 3.6            | 13    |
| L1710066-05 | 032817_BSW | 352      | 2.7L Can   | 03/20/17      | 238350       | L1707930-01       | Pass           | -30.0                     | -11.0                        | -                        | -               | -              | -     |
| L1710066-06 | 032817_BNE | 0160     | Flow 1     | 03/20/17      | 238350       |                   | -              | -                         | -                            | Pass                     | 4.4             | 5.9            | 29    |
| L1710066-06 | 032817_BNE | 393      | 2.7L Can   | 03/20/17      | 238350       | L1707930-01       | Pass           | -30.0                     | -3.5                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01  
 Client ID: CAN 371 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 03/16/17 08:45  
 Analyst: RY

Date Collected: 03/15/17 16:00  
 Date Received: 03/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01  
 Client ID: CAN 371 SHELF 8  
 Sample Location:

Date Collected: 03/15/17 16:00  
 Date Received: 03/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01  
 Client ID: CAN 371 SHELF 8  
 Sample Location:

Date Collected: 03/15/17 16:00  
 Date Received: 03/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01  
 Client ID: CAN 371 SHELF 8  
 Sample Location:

Date Collected: 03/15/17 16:00  
 Date Received: 03/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01 Date Collected: 03/15/17 16:00  
 Client ID: CAN 371 SHELF 8 Date Received: 03/16/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 60-140              |
| Bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01  
 Client ID: CAN 371 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 03/16/17 08:45  
 Analyst: RY

Date Collected: 03/15/17 16:00  
 Date Received: 03/16/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01  
 Client ID: CAN 371 SHELF 8  
 Sample Location:

Date Collected: 03/15/17 16:00  
 Date Received: 03/16/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1707930  
**Report Date:** 04/05/17

### Air Canister Certification Results

Lab ID: L1707930-01  
 Client ID: CAN 371 SHELF 8  
 Sample Location:

Date Collected: 03/15/17 16:00  
 Date Received: 03/16/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1707930**Project Number:** CANISTER QC BAT**Report Date:** 04/05/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1707930-01  
**Client ID:** CAN 371 SHELF 8  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 03/16/17 08:45  
**Analyst:** RY

**Date Collected:** 03/15/17 16:00  
**Date Received:** 03/16/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF**Project Number:** 683-057**Lab Number:** L1710066**Report Date:** 04/05/17**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information Custody Seal****Cooler**

N/A Absent

**Container Information**

| Container ID | Container Type       | Cooler | pH  | Temp<br>deg C | Pres | Seal   | Analysis(*)             |
|--------------|----------------------|--------|-----|---------------|------|--------|-------------------------|
| L1710066-01A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1710066-02A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1710066-03A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1710066-04A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1710066-05A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1710066-06A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |

\*Values in parentheses indicate holding time in days

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

#### Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
  - D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
  - E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
  - G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
  - H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
  - I** - The lower value for the two columns has been reported due to obvious interference.
  - M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
  - NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
  - P** - The RPD between the results for the two columns exceeds the method-specified criteria.
  - Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
  - R** - Analytical results are from sample re-analysis.
  - RE** - Analytical results are from sample re-extraction.
  - S** - Analytical results are from modified screening analysis.
  - J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
  - ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1710066  
**Report Date:** 04/05/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.





## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1713403  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 05/04/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1713403-01                | 041917_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 04/19/17 15:39                  | 04/27/17            |
| L1713403-02                | 041917_1C        | AIR           | SKYKOMISH, WASHINGTON      | 04/19/17 11:40                  | 04/27/17            |
| L1713403-03                | 041917_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 04/19/17 15:38                  | 04/27/17            |
| L1713403-04                | 041917_BC        | AIR           | SKYKOMISH, WASHINGTON      | 04/19/17 15:40                  | 04/27/17            |
| L1713403-05                | 041917_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 04/19/17 15:41                  | 04/27/17            |
| L1713403-06                | 041917_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 04/19/17 15:42                  | 04/27/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on April 14, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

Sample L1713403-01: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, hexamethyldisiloxane, hexanal, butyl acetate, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1713403-01: 1,4-Dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1713403-02: Isopropyl alcohol, trimethylsilanol, 2-butanone, hexamethyldisiloxane, 4-methyl-2-pentanone, hexanal, butyl acetate, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1713403-02: 1,4-Dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1713403-03: Isopropyl alcohol, trimethylsilanol, 2-butanone, chloroform, tetrahydrofuran, hexamethyldisiloxane, 4-methyl-2-pentanone, hexanal, butyl acetate, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

### Case Narrative (continued)

Sample L1713403-03: 1,4-Dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1713403-04: Isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, tetrahydrofuran, hexanal, butyl acetate, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1713403-04: 1,4-Dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1713403-05: Isopropyl alcohol, 2-butanone, chloroform, tetrahydrofuran, 4-methyl-2-pentanone, hexanal, butyl acetate, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Sample L1713403-05: 1,4-Dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample L1713403-06: Isopropyl alcohol, trimethylsilanol, 2-butanone, chloroform, tetrahydrofuran, hexamethyldisiloxane, 4-methyl-2-pentanone, hexanal, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

### Case Narrative (continued)

Sample L1713403-06: 1,4-Dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 05/04/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1713403**Project Number:** 683-057**Report Date:** 05/04/17**SAMPLE RESULTS**

Lab ID: L1713403-01  
 Client ID: 041917\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 05/02/17 20:43  
 Analyst: MB

Date Collected: 04/19/17 15:39  
 Date Received: 04/27/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.431   | 0.100 | --  | 1.38    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.051   | 0.050 | --  | 0.267   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 92         |           | 60-140              |
| bromochloromethane  | 94         |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1713403**Project Number:** 683-057**Report Date:** 05/04/17**SAMPLE RESULTS**

**Lab ID:** L1713403-02  
**Client ID:** 041917\_1C  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 05/02/17 21:16  
**Analyst:** MB

**Date Collected:** 04/19/17 11:40  
**Date Received:** 04/27/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.027   | 0.020 | --  | 0.060   | 0.044 | --  |           | 1               |
| Benzene   | 0.332   | 0.100 | --  | 1.06    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1713403**Project Number:** 683-057**Report Date:** 05/04/17**SAMPLE RESULTS**

**Lab ID:** L1713403-03  
**Client ID:** 041917\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 05/02/17 22:22  
**Analyst:** MB

**Date Collected:** 04/19/17 15:38  
**Date Received:** 04/27/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.301   | 0.100 | --  | 0.962   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 93         |           | 60-140              |
| bromochloromethane  | 96         |           | 60-140              |
| chlorobenzene-d5    | 95         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1713403**Project Number:** 683-057**Report Date:** 05/04/17**SAMPLE RESULTS**

**Lab ID:** L1713403-04  
**Client ID:** 041917\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 05/02/17 22:55  
**Analyst:** MB

**Date Collected:** 04/19/17 15:40  
**Date Received:** 04/27/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.233   | 0.100 | --  | 0.744   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 93         |           | 60-140              |
| bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 94         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1713403**Project Number:** 683-057**Report Date:** 05/04/17**SAMPLE RESULTS**

**Lab ID:** L1713403-05  
**Client ID:** 041917\_BSW  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 05/02/17 23:27  
**Analyst:** MB

**Date Collected:** 04/19/17 15:41  
**Date Received:** 04/27/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.213   | 0.100 | --  | 0.680   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 94         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1713403**Project Number:** 683-057**Report Date:** 05/04/17**SAMPLE RESULTS**

**Lab ID:** L1713403-06  
**Client ID:** 041917\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 05/03/17 00:00  
**Analyst:** MB

**Date Collected:** 04/19/17 15:42  
**Date Received:** 04/27/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.025   | 0.020 | --  | 0.055   | 0.044 | --  |           | 1               |
| Benzene   | 0.240   | 0.100 | --  | 0.767   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 94         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 05/02/17 13:01

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG999559-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 05/02/17 13:01

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG999559-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 05/02/17 13:01

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG999559-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 05/02/17 13:01

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG999559-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG999559-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG999559-3 |                  |      |                   |      |                     |     |      |               |
| trans-1,2-Dichloroethene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate   | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG999559-3 |                  |      |                   |      |                     |     |      |               |
| cis-1,3-Dichloropropene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1713403

Report Date: 05/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG999559-3 |                  |      |                   |      |                     |     |      |               |
| 1,3,5-Trimethylbenzene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene  | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG999559-5 QC Sample: L1713505-03 Client ID: DUP Sample |               |                  |       |     |      |            |
| Dichlorodifluoromethane  | 0.469         | 0.317            | ppbV  | 39  | Q    | 25         |
| Chloromethane  | 0.552         | 0.563            | ppbV  | 2   |      | 25         |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Vinyl chloride   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,3-Butadiene  | 0.052         | 0.054            | ppbV  | 4   |      | 25         |
| Bromomethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethyl Alcohol  | ND            | ND               | ppbV  | NC  |      | 25         |
| Vinyl bromide  | ND            | ND               | ppbV  | NC  |      | 25         |
| Acetone  | 16.0          | 16.5             | ppbV  | 3   |      | 25         |
| Trichlorofluoromethane   | 0.212         | 0.214            | ppbV  | 1   |      | 25         |
| iso-Propyl Alcohol   | 1.16          | 1.20             | ppbV  | 3   |      | 25         |
| 1,1-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Methylene chloride   | 1.01          | 0.992            | ppbV  | 2   |      | 25         |
| 3-Chloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon disulfide   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 0.064         | 0.065            | ppbV  | 2   |      | 25         |
| trans-1,2-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1713403

Report Date: 05/04/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG999559-5 QC Sample: L1713505-03 Client ID: DUP Sample |               |                  |       |     |      |            |
| Methyl tert butyl ether  | ND            | ND               | ppbV  | NC  |      | 25         |
| 2-Butanone   | 0.844         | 0.751            | ppbV  | 12  |      | 25         |
| cis-1,2-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethyl Acetate  | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroform   | 0.043         | 0.044            | ppbV  | 2   |      | 25         |
| Tetrahydrofuran  | 0.870         | 0.899            | ppbV  | 3   |      | 25         |
| 1,2-Dichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| n-Hexane   | 0.437         | 0.454            | ppbV  | 4   |      | 25         |
| 1,1,1-Trichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | 0.328         | 0.334            | ppbV  | 2   |      | 25         |
| Carbon tetrachloride   | 0.068         | 0.070            | ppbV  | 3   |      | 25         |
| Cyclohexane  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichloropropane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Bromodichloromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,4-Dioxane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Trichloroethene  | 0.062         | 0.064            | ppbV  | 3   |      | 25         |
| 2,2,4-Trimethylpentane   | 0.216         | 0.222            | ppbV  | 3   |      | 25         |
| Heptane  | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,3-Dichloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1713403

Report Date: 05/04/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG999559-5 QC Sample: L1713505-03 Client ID: DUP Sample |               |                  |       |     |      |            |
| 4-Methyl-2-pentanone   | ND            | ND               | ppbV  | NC  |      | 25         |
| trans-1,3-Dichloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,2-Trichloroethane  | 0.047         | 0.047            | ppbV  | 0   |      | 25         |
| Toluene  | 1.29          | 1.31             | ppbV  | 2   |      | 25         |
| 2-Hexanone   | ND            | ND               | ppbV  | NC  |      | 25         |
| Dibromochloromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dibromoethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Tetrachloroethene  | 0.071         | 0.071            | ppbV  | 0   |      | 25         |
| Chlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethylbenzene   | 0.187         | 0.187            | ppbV  | 0   |      | 25         |
| p/m-Xylene   | 1.35          | 1.36             | ppbV  | 1   |      | 25         |
| Bromoform  | ND            | ND               | ppbV  | NC  |      | 25         |
| Styrene  | 0.040         | 0.041            | ppbV  | 2   |      | 25         |
| 1,1,1,2-Tetrachloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| o-Xylene   | 0.656         | 0.662            | ppbV  | 1   |      | 25         |
| 4-Ethyltoluene   | 0.772         | 0.778            | ppbV  | 1   |      | 25         |
| 1,3,5-Trimethylbenzene   | 1.83          | 1.87             | ppbV  | 2   |      | 25         |
| 1,2,4-Trimethylbenzene   | 4.25          | 4.28             | ppbV  | 1   |      | 25         |
| Benzyl chloride  | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1713403

Report Date: 05/04/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG999559-5 QC Sample: L1713505-03 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,4-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2,4-Trichlorobenzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Hexachlorobutadiene  | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

## SAMPLE RESULTS

Lab ID: L1713403-01  
 Client ID: 041917\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 05/02/17 20:43  
 Analyst: MB

Date Collected: 04/19/17 15:39  
 Date Received: 04/27/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

| Parameter                   | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|-----------------------------|--------|-----------|-------|------|-----|-----------------|
| 1,3-Butadiene               | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether     | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                     | 1.4    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted  | 85     |           | ug/m3 | 10   | --  | 1               |
| Toluene                     | 11     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                | 1.5    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                  | 6.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                    | 1.9    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                 | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted | 30     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total      | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 50-200              |
| Bromochloromethane  | 92         |           | 50-200              |
| Chlorobenzene-d5    | 95         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

**SAMPLE RESULTS**

Lab ID: L1713403-02  
 Client ID: 041917\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 05/02/17 21:16  
 Analyst: MB

Date Collected: 04/19/17 11:40  
 Date Received: 04/27/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 72     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 8.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.1    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.4    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.3    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 34     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 50-200              |
| Bromochloromethane  | 92         |           | 50-200              |
| Chlorobenzene-d5    | 93         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

## SAMPLE RESULTS

Lab ID: L1713403-03  
 Client ID: 041917\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 05/02/17 22:22  
 Analyst: MB

Date Collected: 04/19/17 15:38  
 Date Received: 04/27/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.96   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 62     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 9.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.1    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 12     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 50-200              |
| Bromochloromethane  | 94         |           | 50-200              |
| Chlorobenzene-d5    | 97         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

## SAMPLE RESULTS

Lab ID: L1713403-04  
 Client ID: 041917\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 05/02/17 22:55  
 Analyst: MB

Date Collected: 04/19/17 15:40  
 Date Received: 04/27/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.72 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 48   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 5.5  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 3.0  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 0.94 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 11   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 50-200              |
| Bromochloromethane  | 93         |           | 50-200              |
| Chlorobenzene-d5    | 96         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

**SAMPLE RESULTS**

Lab ID: L1713403-05  
 Client ID: 041917\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 05/02/17 23:27  
 Analyst: MB

Date Collected: 04/19/17 15:41  
 Date Received: 04/27/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.68   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 46     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.7    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 85         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 91         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

## SAMPLE RESULTS

Lab ID: L1713403-06  
 Client ID: 041917\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 05/03/17 00:00  
 Analyst: MB

Date Collected: 04/19/17 15:42  
 Date Received: 04/27/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.72   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 67     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 8.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.6    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 34     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 87         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 93         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 05/02/17 13:01  
Analyst: MB

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG999557-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG999557-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene   | 103              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether   | 110              |      | -                 |      | 70-130              | -   |      |               |
| Benzene   | 100              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted  | 98               |      | -                 |      | 70-130              | -   |      |               |
| Toluene   | 100              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene  | 99               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene  | 98               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene  | 99               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene   | 115              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted   | 102              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total  | 84               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1713403

Report Date: 05/04/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG999557-5 QC Sample: L1713403-02 Client ID: 041917_1C |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.1           | 1.0              | ug/m3 | 10  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 72            | 67               | ug/m3 | 7   |      | 30         |
| Toluene   | 8.1           | 8.2              | ug/m3 | 1   |      | 30         |
| Ethylbenzene  | 1.1           | 1.1              | ug/m3 | 0   |      | 30         |
| p/m-Xylene  | 4.4           | 4.4              | ug/m3 | 0   |      | 30         |
| o-Xylene  | 1.3           | 1.3              | ug/m3 | 0   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 34            | 32               | ug/m3 | 6   |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:05041711:46  
Lab Number: L1713403

Project Number: 683-057

Report Date: 05/04/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1713403-01 | 041917_2SE | 0188     | Flow 5     | 04/14/17      | 239993       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.1            | 9     |
| L1713403-01 | 041917_2SE | 407      | 2.7L Can   | 04/14/17      | 239993       | L1711029-01       | Pass           | -30.0                     | -7.9                         | -                        | -               | -              | -     |
| L1713403-02 | 041917_1C  | 0825     | Flow 5     | 04/14/17      | 239993       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1713403-02 | 041917_1C  | 559      | 2.7L Can   | 04/14/17      | 239993       | L1711029-01       | Pass           | -29.9                     | -5.5                         | -                        | -               | -              | -     |
| L1713403-03 | 041917_1SE | 0989     | Flow 5     | 04/14/17      | 239993       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1713403-03 | 041917_1SE | 2236     | 2.7L Can   | 04/14/17      | 239993       | L1711029-01       | Pass           | -29.9                     | -4.1                         | -                        | -               | -              | -     |
| L1713403-04 | 041917_BC  | 0447     | Flow 5     | 04/14/17      | 239993       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1713403-04 | 041917_BC  | 109      | 2.7L Can   | 04/14/17      | 239993       | L1711029-01       | Pass           | -29.9                     | -4.0                         | -                        | -               | -              | -     |
| L1713403-05 | 041917_BSW | 0555     | Flow 5     | 04/14/17      | 239993       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.1            | 13    |
| L1713403-05 | 041917_BSW | 252      | 2.7L Can   | 04/14/17      | 239993       | L1711029-01       | Pass           | -30.0                     | -5.9                         | -                        | -               | -              | -     |
| L1713403-06 | 041917_BNE | 0988     | Flow 5     | 04/14/17      | 239993       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.5            | 0     |
| L1713403-06 | 041917_BNE | 521      | 2.7L Can   | 04/14/17      | 239993       | L1711029-01       | Pass           | -30.0                     | -6.3                         | -                        | -               | -              | -     |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1711029  
**Report Date:** 05/04/17

### Air Canister Certification Results

Lab ID: L1711029-01  
 Client ID: CAN 538 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 04/10/17 16:42  
 Analyst: MB

Date Collected: 04/07/17 16:00  
 Date Received: 04/10/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1711029  
**Report Date:** 05/04/17

### Air Canister Certification Results

Lab ID: L1711029-01  
 Client ID: CAN 538 SHELF 1  
 Sample Location:

Date Collected: 04/07/17 16:00  
 Date Received: 04/10/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1711029  
**Report Date:** 05/04/17

### Air Canister Certification Results

Lab ID: L1711029-01 Date Collected: 04/07/17 16:00  
 Client ID: CAN 538 SHELF 1 Date Received: 04/10/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1711029  
**Report Date:** 05/04/17

### Air Canister Certification Results

Lab ID: L1711029-01  
 Client ID: CAN 538 SHELF 1  
 Sample Location:

Date Collected: 04/07/17 16:00  
 Date Received: 04/10/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1711029**Project Number:** CANISTER QC BAT**Report Date:** 05/04/17**Air Canister Certification Results**

Lab ID: L1711029-01

Date Collected: 04/07/17 16:00

Client ID: CAN 538 SHELF 1

Date Received: 04/10/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 92         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 84         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1711029  
**Report Date:** 05/04/17

### Air Canister Certification Results

Lab ID: L1711029-01  
 Client ID: CAN 538 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 04/10/17 16:42  
 Analyst: MB

Date Collected: 04/07/17 16:00  
 Date Received: 04/10/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1711029  
**Report Date:** 05/04/17

### Air Canister Certification Results

Lab ID: L1711029-01  
 Client ID: CAN 538 SHELF 1  
 Sample Location:

Date Collected: 04/07/17 16:00  
 Date Received: 04/10/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1711029  
**Report Date:** 05/04/17

### Air Canister Certification Results

Lab ID: L1711029-01 Date Collected: 04/07/17 16:00  
 Client ID: CAN 538 SHELF 1 Date Received: 04/10/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 95         |           | 60-140              |
| bromochloromethane  | 96         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1711029**Project Number:** CANISTER QC BAT**Report Date:** 05/04/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1711029-01  
**Client ID:** CAN 538 SHELF 1  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 04/10/17 16:42  
**Analyst:** MB

**Date Collected:** 04/07/17 16:00  
**Date Received:** 04/10/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1713403

Report Date: 05/04/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information Custody Seal****Cooler**

N/A Present/Intact

**Container Information**

| Container ID | Container Type       | Cooler | pH  | Temp<br>deg C | Pres | Seal   | Analysis(*)             |
|--------------|----------------------|--------|-----|---------------|------|--------|-------------------------|
| L1713403-01A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1713403-02A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1713403-03A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1713403-04A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1713403-05A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1713403-06A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |

\*Values in parentheses indicate holding time in days

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

#### Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
  - D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
  - E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
  - G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
  - H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
  - I** - The lower value for the two columns has been reported due to obvious interference.
  - M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
  - NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
  - P** - The RPD between the results for the two columns exceeds the method-specified criteria.
  - Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
  - R** - Analytical results are from sample re-analysis.
  - RE** - Analytical results are from sample re-extraction.
  - S** - Analytical results are from modified screening analysis.
  - J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
  - ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1713403  
**Report Date:** 05/04/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.





## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1717643  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 06/02/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1717643  
**Report Date:** 06/02/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1717643-01                | 052517_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 05/25/17 00:00                  | 05/30/17            |
| L1717643-02                | 052517_1C        | AIR           | SKYKOMISH, WASHINGTON      | 05/25/17 16:20                  | 05/30/17            |
| L1717643-03                | 052517_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 05/25/17 16:21                  | 05/30/17            |
| L1717643-04                | 052517_BC        | AIR           | SKYKOMISH, WASHINGTON      | 05/25/17 16:23                  | 05/30/17            |
| L1717643-05                | 052517_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 05/25/17 16:24                  | 05/30/17            |
| L1717643-06                | 052517_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 05/25/17 16:25                  | 05/30/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1717643  
**Report Date:** 06/02/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1717643  
**Report Date:** 06/02/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on May 24, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1717643-01 through -06: D-Limonene, alpha-Pinene, and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1717643-01: Acetone, Isopropyl Alcohol, 2-Butanone, Ethyl Acetate, Tetrahydrofuran, 1-Butanol and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1717643-02: Acetone, Isopropyl Alcohol, 2-Butanone, Ethyl Acetate, Tetrahydrofuran, 1-Butanol, Hexanal and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1717643-03: Isopropyl Alcohol, 2-Butanone, Ethyl Acetate, Hexanal and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1717643-04: Acetone, Isopropyl Alcohol, 2-Butanone, Ethyl Acetate, Tetrahydrofuran, Hexanal, 2-Hexanone and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1717643-05: Acetone, Isopropyl Alcohol, 2-Butanone, Ethyl Acetate, Hexanal, 2-Hexanone and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1717643-06: Acetone, Isopropyl Alcohol, 2-Butanone, Ethyl Acetate, Hexanal, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Elizabeth Porta

Title: Technical Director/Representative

Date: 06/02/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1717643**Project Number:** 683-057**Report Date:** 06/02/17**SAMPLE RESULTS**

**Lab ID:** L1717643-01  
**Client ID:** 052517\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/01/17 21:25  
**Analyst:** RY

**Date Collected:** 05/25/17 00:00  
**Date Received:** 05/30/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.355   | 0.100 | --  | 1.13    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.095   | 0.050 | --  | 0.498   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 84         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1717643**Project Number:** 683-057**Report Date:** 06/02/17**SAMPLE RESULTS**

**Lab ID:** L1717643-02  
**Client ID:** 052517\_1C  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/01/17 22:00  
**Analyst:** RY

**Date Collected:** 05/25/17 16:20  
**Date Received:** 05/30/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.270   | 0.100 | --  | 0.863   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.061   | 0.050 | --  | 0.320   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1717643**Project Number:** 683-057**Report Date:** 06/02/17**SAMPLE RESULTS**

**Lab ID:** L1717643-03  
**Client ID:** 052517\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/01/17 22:34  
**Analyst:** RY

**Date Collected:** 05/25/17 16:21  
**Date Received:** 05/30/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.352   | 0.100 | --  | 1.12    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.061   | 0.050 | --  | 0.320   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 84         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1717643**Project Number:** 683-057**Report Date:** 06/02/17**SAMPLE RESULTS**

**Lab ID:** L1717643-04  
**Client ID:** 052517\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/01/17 23:43  
**Analyst:** RY

**Date Collected:** 05/25/17 16:23  
**Date Received:** 05/30/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.210   | 0.100 | --  | 0.671   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.061   | 0.050 | --  | 0.320   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1717643**Project Number:** 683-057**Report Date:** 06/02/17**SAMPLE RESULTS**

**Lab ID:** L1717643-05  
**Client ID:** 052517\_BSW  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/02/17 00:17  
**Analyst:** RY

**Date Collected:** 05/25/17 16:24  
**Date Received:** 05/30/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.180   | 0.100 | --  | 0.575   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.071   | 0.050 | --  | 0.372   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1717643**Project Number:** 683-057**Report Date:** 06/02/17**SAMPLE RESULTS**

Lab ID: L1717643-06  
 Client ID: 052517\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/02/17 00:52  
 Analyst: RY

Date Collected: 05/25/17 16:25  
 Date Received: 05/30/17  
 Field Prep: None

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.236   | 0.100 | --  | 0.754   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/01/17 14:03

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1008954-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/01/17 14:03

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1008954-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/01/17 14:03

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1008954-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/01/17 14:03

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1008954-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1008954-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 64               | Q    | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1008954-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 76               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1008954-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1717643

Report Date: 06/02/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1008954-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

## SAMPLE RESULTS

Lab ID: L1717643-01  
 Client ID: 052517\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/01/17 21:25  
 Analyst: RY

Date Collected: 05/25/17 00:00  
 Date Received: 05/30/17  
 Field Prep: Not Specified

## Quality Control Information

|   |                      |
|---|----------------------|
| Sample Type:  | Composite            |
| Sample Container Type:  | Canister - 2.7 Liter |
| Sampling Flow Controller:   | Mechanical           |
| Sampling Zone:  | Unknown              |
| Sampling Flow Meter RPD of pre & post-sampling calibration check:               | <=20%                |
| Were all QA/QC procedures REQUIRED by the method followed?                      | Yes                  |
| Were all performance/acceptance standards for the required procedures achieved? | Yes                  |
| Were significant modifications made to the method as specified in Sect 11.1.2?  | No                   |

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 46     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 11     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 5.6    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.6    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 10     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 50-200              |
| Bromochloromethane  | 93         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

## SAMPLE RESULTS

Lab ID: L1717643-02  
 Client ID: 052517\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/01/17 22:00  
 Analyst: RY

Date Collected: 05/25/17 16:20  
 Date Received: 05/30/17  
 Field Prep: Not Specified

## Quality Control Information

|   |                      |
|---|----------------------|
| Sample Type:  | Composite            |
| Sample Container Type:  | Canister - 2.7 Liter |
| Sampling Flow Controller:   | Mechanical           |
| Sampling Zone:  | Unknown              |
| Sampling Flow Meter RPD of pre & post-sampling calibration check:               | <=20%                |
| Were all QA/QC procedures REQUIRED by the method followed?                      | Yes                  |
| Were all performance/acceptance standards for the required procedures achieved? | Yes                  |
| Were significant modifications made to the method as specified in Sect 11.1.2?  | No                   |

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.82   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 32     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 9.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.2    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.3    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 16     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 50-200              |
| Bromochloromethane  | 93         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

**SAMPLE RESULTS**

Lab ID: L1717643-03  
 Client ID: 052517\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/01/17 22:34  
 Analyst: RY

Date Collected: 05/25/17 16:21  
 Date Received: 05/30/17  
 Field Prep: Not Specified

**Quality Control Information**

|   |                      |
|---|----------------------|
| Sample Type:  | Composite            |
| Sample Container Type:  | Canister - 2.7 Liter |
| Sampling Flow Controller:   | Mechanical           |
| Sampling Zone:  | Unknown              |
| Sampling Flow Meter RPD of pre & post-sampling calibration check:               | <=20%                |
| Were all QA/QC procedures REQUIRED by the method followed?                      | Yes                  |
| Were all performance/acceptance standards for the required procedures achieved? | Yes                  |
| Were significant modifications made to the method as specified in Sect 11.1.2?  | No                   |

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 56     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 10     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.5    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 5.4    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

## SAMPLE RESULTS

Lab ID: L1717643-04  
 Client ID: 052517\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/01/17 23:43  
 Analyst: RY

Date Collected: 05/25/17 16:23  
 Date Received: 05/30/17  
 Field Prep: Not Specified

## Quality Control Information

|   |                      |
|---|----------------------|
| Sample Type:  | Composite            |
| Sample Container Type:  | Canister - 2.7 Liter |
| Sampling Flow Controller:   | Mechanical           |
| Sampling Zone:  | Unknown              |
| Sampling Flow Meter RPD of pre & post-sampling calibration check:               | <=20%                |
| Were all QA/QC procedures REQUIRED by the method followed?                      | Yes                  |
| Were all performance/acceptance standards for the required procedures achieved? | Yes                  |
| Were significant modifications made to the method as specified in Sect 11.1.2?  | No                   |

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.70   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 23     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.95   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 87         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

## SAMPLE RESULTS

Lab ID: L1717643-05  
 Client ID: 052517\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/02/17 00:17  
 Analyst: RY

Date Collected: 05/25/17 16:24  
 Date Received: 05/30/17  
 Field Prep: Not Specified

## Quality Control Information

Sample Type: Composite  
 Sample Container Type: Canister - 2.7 Liter  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=20%  
 Were all QA/QC procedures REQUIRED by the method followed? Yes  
 Were all performance/acceptance standards for the required procedures achieved? Yes  
 Were significant modifications made to the method as specified in Sect 11.1.2? No

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 29     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 7.6    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.95   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 19     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 85         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 81         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

## SAMPLE RESULTS

Lab ID: L1717643-06  
 Client ID: 052517\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/02/17 00:52  
 Analyst: RY

Date Collected: 05/25/17 16:25  
 Date Received: 05/30/17  
 Field Prep: None

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.76   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 39     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 8.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.2    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 24     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1717643  
**Report Date:** 06/02/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 06/01/17 13:28  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1008953-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1717643

Report Date: 06/02/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1008953-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 98               |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 96               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 98               |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 95               |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 94               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 94               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 94               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 97               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 119              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 96               |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 80               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1717643

Report Date: 06/02/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1008953-5 QC Sample: L1717643-03 Client ID: 052517_1SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.2           | 1.2              | ug/m3 | 0   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 56            | 66               | ug/m3 | 16  |      | 30         |
| Toluene   | 10            | 10               | ug/m3 | 0   |      | 30         |
| Ethylbenzene  | 1.5           | 1.5              | ug/m3 | 0   |      | 30         |
| p/m-Xylene  | 5.4           | 5.4              | ug/m3 | 0   |      | 30         |
| o-Xylene  | 1.7           | 1.7              | ug/m3 | 0   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:06021716:23  
Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1717643-01 | 052517_2SE | 0843     | Flow 5     | 05/24/17      | 242248       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.7            | 7     |
| L1717643-01 | 052517_2SE | 2382     | 2.7L Can   | 05/24/17      | 242248       | L1716211-01       | Pass           | -29.0                     | -6.0                         | -                        | -               | -              | -     |
| L1717643-02 | 052517_1C  | 0982     | Flow 5     | 05/24/17      | 242248       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.7            | 9     |
| L1717643-02 | 052517_1C  | 548      | 2.7L Can   | 05/24/17      | 242248       | L1716211-01       | Pass           | -29.8                     | -4.0                         | -                        | -               | -              | -     |
| L1717643-03 | 052517_1SE | 0150     | Flow 5     | 05/24/17      | 242248       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.7            | 9     |
| L1717643-03 | 052517_1SE | 2277     | 2.7L Can   | 05/24/17      | 242248       | L1716211-01       | Pass           | -29.9                     | -6.4                         | -                        | -               | -              | -     |
| L1717643-04 | 052517_BC  | 0545     | Flow 5     | 05/24/17      | 242248       |                   | -              | -                         | -                            | Pass                     | 4.2             | 4.6            | 9     |
| L1717643-04 | 052517_BC  | 258      | 2.7L Can   | 05/24/17      | 242248       | L1716211-01       | Pass           | -29.9                     | -6.8                         | -                        | -               | -              | -     |
| L1717643-05 | 052517_BSW | 0956     | Flow 5     | 05/24/17      | 242248       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1717643-05 | 052517_BSW | 199      | 2.7L Can   | 05/24/17      | 242248       | L1716211-01       | Pass           | -29.8                     | -6.7                         | -                        | -               | -              | -     |
| L1717643-06 | 052517_BNE | 0645     | Flow 5     | 05/24/17      | 242248       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.2            | 7     |
| L1717643-06 | 052517_BNE | 2180     | 2.7L Can   | 05/24/17      | 242248       | L1716211-01       | Pass           | -29.8                     | -8.4                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1716211  
**Report Date:** 06/02/17

### Air Canister Certification Results

Lab ID: L1716211-01  
 Client ID: CAN 125 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 05/18/17 18:29  
 Analyst: RY

Date Collected: 05/17/17 16:00  
 Date Received: 05/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1716211  
**Report Date:** 06/02/17

### Air Canister Certification Results

Lab ID: L1716211-01  
 Client ID: CAN 125 SHELF 7  
 Sample Location:

Date Collected: 05/17/17 16:00  
 Date Received: 05/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1716211  
**Report Date:** 06/02/17

### Air Canister Certification Results

Lab ID: L1716211-01  
 Client ID: CAN 125 SHELF 7  
 Sample Location:

Date Collected: 05/17/17 16:00  
 Date Received: 05/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1716211  
**Report Date:** 06/02/17

### Air Canister Certification Results

Lab ID: L1716211-01  
 Client ID: CAN 125 SHELF 7  
 Sample Location:

Date Collected: 05/17/17 16:00  
 Date Received: 05/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1716211**Project Number:** CANISTER QC BAT**Report Date:** 06/02/17**Air Canister Certification Results**

Lab ID: L1716211-01

Date Collected: 05/17/17 16:00

Client ID: CAN 125 SHELF 7

Date Received: 05/18/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 60-140              |
| Bromochloromethane  | 97         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1716211  
**Report Date:** 06/02/17

### Air Canister Certification Results

Lab ID: L1716211-01  
 Client ID: CAN 125 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 05/18/17 18:29  
 Analyst: RY

Date Collected: 05/17/17 16:00  
 Date Received: 05/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1716211  
**Report Date:** 06/02/17

### Air Canister Certification Results

Lab ID: L1716211-01  
 Client ID: CAN 125 SHELF 7  
 Sample Location:

Date Collected: 05/17/17 16:00  
 Date Received: 05/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1716211  
**Report Date:** 06/02/17

### Air Canister Certification Results

Lab ID: L1716211-01  
 Client ID: CAN 125 SHELF 7  
 Sample Location:

Date Collected: 05/17/17 16:00  
 Date Received: 05/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 97         |           | 60-140              |
| bromochloromethane  | 97         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1716211**Project Number:** CANISTER QC BAT**Report Date:** 06/02/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1716211-01  
**Client ID:** CAN 125 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 05/19/17 19:58  
**Analyst:** MB

**Date Collected:** 05/17/17 16:00  
**Date Received:** 05/18/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1717643

Project Number: 683-057

Report Date: 06/02/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information Custody Seal****Cooler**

N/A Present/Intact

**Container Information**

| Container ID | Container Type       | Cooler | pH  | Temp<br>deg C | Pres | Seal   | Analysis(*)             |
|--------------|----------------------|--------|-----|---------------|------|--------|-------------------------|
| L1717643-01A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1717643-02A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1717643-03A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1717643-04A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1717643-05A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |
| L1717643-06A | Canister - 2.7 Liter | N/A    | N/A | N/A           | Y    | Absent | APH-10(30),TO15-SIM(30) |

\*Values in parentheses indicate holding time in days

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1717643  
**Report Date:** 06/02/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1717643  
**Report Date:** 06/02/17

#### Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
  - D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
  - E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
  - G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
  - H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
  - I** - The lower value for the two columns has been reported due to obvious interference.
  - M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
  - NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
  - P** - The RPD between the results for the two columns exceeds the method-specified criteria.
  - Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
  - R** - Analytical results are from sample re-analysis.
  - RE** - Analytical results are from sample re-extraction.
  - S** - Analytical results are from modified screening analysis.
  - J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
  - ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1717643  
**Report Date:** 06/02/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.





## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1719514  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 06/16/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1719514-01                | 060717_2SE       | AIR           | SKYKOMISH, WA              | 06/07/17 15:40                  | 06/13/17            |
| L1719514-02                | 060717_1C        | AIR           | SKYKOMISH, WA              | 06/07/17 15:36                  | 06/12/17            |
| L1719514-03                | 060717_1SE       | AIR           | SKYKOMISH, WA              | 06/07/17 15:35                  | 06/13/17            |
| L1719514-04                | 060717_BNE       | AIR           | SKYKOMISH, WA              | 06/07/17 15:31                  | 06/12/17            |
| L1719514-05                | 060717_BC        | AIR           | SKYKOMISH, WA              | 06/07/17 15:30                  | 06/12/17            |
| L1719514-06                | 060717_BSW       | AIR           | SKYKOMISH, WA              | 06/07/17 15:29                  | 06/12/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on June 5, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1719514-01: Limonene, alpha-pinene, beta-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1719514-01: Isopropyl alcohol, trimethylsilanol, hexamethylcyclotrisiloxane, heptanal and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1719514-02: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, hexanal, furfural, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1719514-02, -04, -05, and -06: Limonene, alpha-pinene, beta-pinene, 1,4-dichlorobenzene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1719514-03: Isopropyl alcohol, trimethylsilanol, 2-butanone, hexanal, hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1719514-03: Limonene, alpha-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1719514-04: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 1-butanol, hexanal, hexamethylcyclotrisiloxane, heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

**Case Narrative (continued)**

L1719514-05: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, hexanal, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1719514-06: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 06/16/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1719514**Project Number:** 683-057**Report Date:** 06/16/17**SAMPLE RESULTS**

Lab ID: L1719514-01  
 Client ID: 060717\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/15/17 21:13  
 Analyst: MB

Date Collected: 06/07/17 15:40  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.021   | 0.020 | --  | 0.047   | 0.044 | --  |           | 1               |
| Benzene   | 0.300   | 0.100 | --  | 0.958   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 77         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1719514**Project Number:** 683-057**Report Date:** 06/16/17**SAMPLE RESULTS**

**Lab ID:** L1719514-02  
**Client ID:** 060717\_1C  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/15/17 21:51  
**Analyst:** MB

**Date Collected:** 06/07/17 15:36  
**Date Received:** 06/12/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.029   | 0.020 | --  | 0.064   | 0.044 | --  |           | 1               |
| Benzene   | 0.650   | 0.100 | --  | 2.08    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.072   | 0.050 | --  | 0.378   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 72         |           | 60-140              |
| bromochloromethane  | 81         |           | 60-140              |
| chlorobenzene-d5    | 63         |           | 60-140              |



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

### SAMPLE RESULTS

Lab ID: L1719514-03  
 Client ID: 060717\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/15/17 22:26  
 Analyst: MB

Date Collected: 06/07/17 15:35  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.145   | 0.100 | --  | 0.463   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 77         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1719514**Project Number:** 683-057**Report Date:** 06/16/17**SAMPLE RESULTS**

**Lab ID:** L1719514-04  
**Client ID:** 060717\_BNE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/15/17 23:35  
**Analyst:** MB

**Date Collected:** 06/07/17 15:31  
**Date Received:** 06/12/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.027   | 0.020 | --  | 0.060   | 0.044 | --  |           | 1               |
| Benzene   | 0.349   | 0.100 | --  | 1.11    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 77         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1719514**Project Number:** 683-057**Report Date:** 06/16/17**SAMPLE RESULTS**

**Lab ID:** L1719514-05  
**Client ID:** 060717\_BC  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/16/17 00:09  
**Analyst:** MB

**Date Collected:** 06/07/17 15:30  
**Date Received:** 06/12/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.035   | 0.020 | --  | 0.077   | 0.044 | --  |           | 1               |
| Benzene   | 0.410   | 0.100 | --  | 1.31    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.092   | 0.050 | --  | 0.482   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 83         |           | 60-140              |
| chlorobenzene-d5    | 76         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1719514**Project Number:** 683-057**Report Date:** 06/16/17**SAMPLE RESULTS**

**Lab ID:** L1719514-06  
**Client ID:** 060717\_BSW  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/16/17 00:44  
**Analyst:** MB

**Date Collected:** 06/07/17 15:29  
**Date Received:** 06/12/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.024   | 0.020 | --  | 0.053   | 0.044 | --  |           | 1               |
| Benzene   | 0.355   | 0.100 | --  | 1.13    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.054   | 0.050 | --  | 0.283   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/15/17 15:26

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1013631-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/15/17 15:26

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1013631-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/15/17 15:26

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1013631-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/15/17 15:26

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1013631-4 |         |       |     |         |       |     |           |                 |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1719514

Report Date: 06/16/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1013631-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether  | 84               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1013631-3 |                  |      |                   |      |                     |     |      |               |
| Vinyl acetate  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1013631-3 |                  |      |                   |      |                     |     |      |               |
| 2-Hexanone   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

| Parameter  | <i>LCS</i><br>%Recovery | <i>Qual</i> | <i>LCSD</i><br>%Recovery | <i>Qual</i> | <i>%Recovery</i><br>Limits | <i>RPD</i> | <i>Qual</i> | <i>RPD</i><br>Limits |
|--|-------------------------|-------------|--------------------------|-------------|----------------------------|------------|-------------|----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1013631-3 |                         |             |                          |             |                            |            |             |                      |
| 1,2-Dichlorobenzene  | 99                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| n-Butylbenzene   | 99                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,4-Trichlorobenzene   | 114                     |             | -                        |             | 70-130                     | -          |             | 25                   |
| Naphthalene  | 106                     |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,3-Trichlorobenzene   | 110                     |             | -                        |             | 70-130                     | -          |             | 25                   |
| Hexachlorobutadiene  | 98                      |             | -                        |             | 70-130                     | -          |             | 25                   |

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1013631-5 QC Sample: L1719514-03 Client ID: 060717_1SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | 0.145         | 0.154            | ppbV  | 6   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

## SAMPLE RESULTS

Lab ID: L1719514-01  
 Client ID: 060717\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/15/17 21:13  
 Analyst: MB

Date Collected: 06/07/17 15:40  
 Date Received: 06/13/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.0    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 66     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 8.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 84         |           | 50-200              |
| Chlorobenzene-d5    | 77         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

**SAMPLE RESULTS**

Lab ID: L1719514-02  
 Client ID: 060717\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/15/17 21:51  
 Analyst: MB

Date Collected: 06/07/17 15:36  
 Date Received: 06/12/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 2.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 150    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 15     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 2.2    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 8.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 2.7    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 72         |           | 50-200              |
| Bromochloromethane  | 78         |           | 50-200              |
| Chlorobenzene-d5    | 64         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

**SAMPLE RESULTS**

Lab ID: L1719514-03  
 Client ID: 060717\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/15/17 22:26  
 Analyst: MB

Date Collected: 06/07/17 15:35  
 Date Received: 06/13/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 32     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 2.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 79         |           | 50-200              |
| Bromochloromethane  | 83         |           | 50-200              |
| Chlorobenzene-d5    | 76         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

## SAMPLE RESULTS

Lab ID: L1719514-04  
 Client ID: 060717\_BNE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/15/17 23:35  
 Analyst: MB

Date Collected: 06/07/17 15:31  
 Date Received: 06/12/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 110    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 9.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 0.96   |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.6    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 13     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 77         |           | 50-200              |
| Bromochloromethane  | 81         |           | 50-200              |
| Chlorobenzene-d5    | 77         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

**SAMPLE RESULTS**

Lab ID: L1719514-05  
 Client ID: 060717\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/16/17 00:09  
 Analyst: MB

Date Collected: 06/07/17 15:30  
 Date Received: 06/12/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.3    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 94     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 9.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.1    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 76         |           | 50-200              |
| Bromochloromethane  | 80         |           | 50-200              |
| Chlorobenzene-d5    | 76         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

## SAMPLE RESULTS

Lab ID: L1719514-06  
 Client ID: 060717\_BSW  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/16/17 00:44  
 Analyst: MB

Date Collected: 06/07/17 15:29  
 Date Received: 06/12/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 76     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.3    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 80         |           | 50-200              |
| Bromochloromethane  | 82         |           | 50-200              |
| Chlorobenzene-d5    | 77         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1719514

Project Number: 683-057

Report Date: 06/16/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 06/15/17 14:51  
 Analyst: MB

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1013630-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

| <b>Parameter</b>   | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1013630-3 |                          |             |                           |             |                             |            |             |                       |
| 1,3-Butadiene  | 105                      |             | -                         |             | 70-130                      | -          |             |                       |
| Methyl tert butyl ether  | 92                       |             | -                         |             | 70-130                      | -          |             |                       |
| Benzene  | 97                       |             | -                         |             | 70-130                      | -          |             |                       |
| C5-C8 Aliphatics, Adjusted   | 98                       |             | -                         |             | 70-130                      | -          |             |                       |
| Toluene  | 91                       |             | -                         |             | 70-130                      | -          |             |                       |
| Ethylbenzene   | 92                       |             | -                         |             | 70-130                      | -          |             |                       |
| p/m-Xylene   | 92                       |             | -                         |             | 70-130                      | -          |             |                       |
| o-Xylene   | 96                       |             | -                         |             | 70-130                      | -          |             |                       |
| Naphthalene  | 112                      |             | -                         |             | 50-150                      | -          |             |                       |
| C9-C12 Aliphatics, Adjusted  | 99                       |             | -                         |             | 70-130                      | -          |             |                       |
| C9-C10 Aromatics Total   | 78                       |             | -                         |             | 70-130                      | -          |             |                       |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1719514

Report Date: 06/16/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1013630-5 QC Sample: L1719514-03 Client ID: 060717_1SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 32            | 33               | ug/m3 | 3   |      | 30         |
| Toluene   | 2.2           | 2.2              | ug/m3 | 0   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 1.0           | 1.0              | ug/m3 | 0   |      | 30         |
| o-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:06161715:11  
Lab Number: L1719514

Report Date: 06/16/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1719514-01 | 060717_2SE | 0908     | Flow 4     | 06/05/17      | 243083       |                   | -              | -                         | -                            | Pass                     | 10.0            | 10.4           | 4     |
| L1719514-01 | 060717_2SE | 1542     | 6.0L Can   | 06/05/17      | 243083       | L1717734-03       | Pass           | -30.0                     | -7.9                         | -                        | -               | -              | -     |
| L1719514-02 | 060717_1C  | 0761     | Flow 4     | 06/05/17      | 243083       |                   | -              | -                         | -                            | Pass                     | 10.0            | 5.1            | 65    |
| L1719514-02 | 060717_1C  | 1536     | 6.0L Can   | 06/05/17      | 243083       | L1717734-03       | Pass           | -30.0                     | -18.2                        | -                        | -               | -              | -     |
| L1719514-03 | 060717_1SE | 0442     | Flow 4     | 06/05/17      | 243083       |                   | -              | -                         | -                            | Pass                     | 10.0            | 9.8            | 2     |
| L1719514-03 | 060717_1SE | 1558     | 6.0L Can   | 06/05/17      | 243083       | L1717734-03       | Pass           | -30.0                     | -8.9                         | -                        | -               | -              | -     |
| L1719514-04 | 060717_BNE | 0121     | Flow 2     | 06/05/17      | 243083       |                   | -              | -                         | -                            | Pass                     | 9.9             | 11.1           | 11    |
| L1719514-04 | 060717_BNE | 1530     | 6.0L Can   | 06/05/17      | 243083       | L1717734-03       | Pass           | -30.0                     | -8.9                         | -                        | -               | -              | -     |
| L1719514-05 | 060717_BC  | 0909     | Flow 4     | 06/05/17      | 243083       |                   | -              | -                         | -                            | Pass                     | 10.0            | 9.0            | 11    |
| L1719514-05 | 060717_BC  | 1595     | 6.0L Can   | 06/05/17      | 243083       | L1717734-03       | Pass           | -30.0                     | -11.0                        | -                        | -               | -              | -     |
| L1719514-06 | 060717_BSW | 0030     | Flow 4     | 06/05/17      | 243083       |                   | -              | -                         | -                            | Pass                     | 10.0            | 11.5           | 14    |
| L1719514-06 | 060717_BSW | 972      | 6.0L Can   | 06/05/17      | 243083       | L1717734-03       | Pass           | -30.0                     | -8.2                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1717734  
**Report Date:** 06/16/17

### Air Canister Certification Results

Lab ID: L1717734-03  
 Client ID: CAN 583 SHELF 53  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 05/31/17 16:43  
 Analyst: RY

Date Collected: 05/30/17 16:00  
 Date Received: 05/31/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1717734  
**Report Date:** 06/16/17

### Air Canister Certification Results

Lab ID: L1717734-03  
 Client ID: CAN 583 SHELF 53  
 Sample Location:

Date Collected: 05/30/17 16:00  
 Date Received: 05/31/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1717734

Project Number: CANISTER QC BAT

Report Date: 06/16/17

## Air Canister Certification Results

Lab ID: L1717734-03  
 Client ID: CAN 583 SHELF 53  
 Sample Location:

Date Collected: 05/30/17 16:00  
 Date Received: 05/31/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1717734  
**Report Date:** 06/16/17

### Air Canister Certification Results

Lab ID: L1717734-03  
 Client ID: CAN 583 SHELF 53  
 Sample Location:

Date Collected: 05/30/17 16:00  
 Date Received: 05/31/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1717734  
**Report Date:** 06/16/17

### Air Canister Certification Results

Lab ID: L1717734-03 Date Collected: 05/30/17 16:00  
 Client ID: CAN 583 SHELF 53 Date Received: 05/31/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 85         |           | 60-140              |
| Bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 86         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1717734  
**Report Date:** 06/16/17

### Air Canister Certification Results

Lab ID: L1717734-03  
 Client ID: CAN 583 SHELF 53  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 05/31/17 16:43  
 Analyst: RY

Date Collected: 05/30/17 16:00  
 Date Received: 05/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1717734  
**Report Date:** 06/16/17

### Air Canister Certification Results

Lab ID: L1717734-03  
 Client ID: CAN 583 SHELF 53  
 Sample Location:

Date Collected: 05/30/17 16:00  
 Date Received: 05/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1717734  
**Report Date:** 06/16/17

### Air Canister Certification Results

Lab ID: L1717734-03  
 Client ID: CAN 583 SHELF 53  
 Sample Location:

Date Collected: 05/30/17 16:00  
 Date Received: 05/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 82         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1717734**Project Number:** CANISTER QC BAT**Report Date:** 06/16/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1717734-03  
**Client ID:** CAN 583 SHELF 53  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/01/17 16:49  
**Analyst:** RY

**Date Collected:** 05/30/17 16:00  
**Date Received:** 05/31/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH**Lab Number:** L1719514**Project Number:** 683-057**Report Date:** 06/16/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                      Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1719514-01A        | Canister - 6 Liter    | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1719514-02A        | Canister - 6 Liter    | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1719514-03A        | Canister - 6 Liter    | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1719514-04A        | Canister - 6 Liter    | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1719514-05A        | Canister - 6 Liter    | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1719514-06A        | Canister - 6 Liter    | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Container Comments**

L1719514-01A      Can rec'd 6/13/17

L1719514-03A      Can rec'd 6/13/17

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1719514  
**Report Date:** 06/16/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

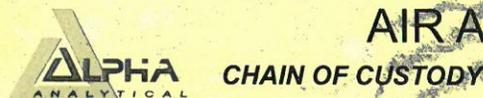
**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1719514

**Client Information**

Client: FARALON  
 Address: 975 SIM AVENUE NW  
NORTH  
 Phone: 975-765-450

**Project Information**

Project Name: MUF  
 Project Location: SUYKOWISH, MA  
 Project #: 683-057  
 Project Manager: ANDREW Vining  
 ALPHA Quote #:

**Report Information - Data Deliverables**

FAX  
 ADEx  
 Criteria Checker: \_\_\_\_\_  
(Default based on Regulatory Criteria Indicated)  
 Other Formats:  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: (if different than Project Manager)

**Billing Information**

Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

Fax:

Email: avining@farallonconsulting.com

These samples have been previously analyzed by Alpha

**Turn-Around Time**

Standard  RUSH (only confirmed if pre-approved)

Date Due: 3-DAY Time:

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:

SIM: BENZE, NAPHTHALENE, 1,3 BUAADIGNE

**All Columns Below Must Be Filled Out**

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID                 | COLLECTION    |             |              |                |              | Sample Matrix* | Sampler's Initials | Can Size  | ID Can      | ID - Flow Controller | TO-15    | TO-15 SIM | APH<br><small>Subtract Non-petroleum HCs</small> | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|---------------------------|---------------|-------------|--------------|----------------|--------------|----------------|--------------------|-----------|-------------|----------------------|----------|-----------|--|-------------|--------------------------------|----------------------------|
|                                |                           | End Date      | Start Time  | End Time     | Initial Vacuum | Final Vacuum |                |                    |           |             |                      |          |           |  |             |                                |                            |
| 19514.01                       | <u>250<br/>22C-060717</u> | <u>6/7/17</u> | <u>8:17</u> | <u>15:40</u> | <u>29.04</u>   | <u>6.76</u>  | <u>AA</u>      | <u>AV</u>          | <u>6L</u> | <u>1542</u> | <u>0908</u>          | <u>X</u> | <u>X</u>  |  |             |                                |                            |
| .02                            | <u>1C-060717</u>          | <u>6/7/17</u> | <u>8:16</u> | <u>15:36</u> | <u>29.16</u>   | <u>17.33</u> | <u>AA</u>      | <u>AV</u>          | <u>6</u>  | <u>1536</u> | <u>0701</u>          | <u>X</u> | <u>X</u>  |  |             |                                |                            |
| .03                            | <u>15C-060717</u>         | <u>6/7/17</u> | <u>8:15</u> | <u>15:55</u> | <u>29.23</u>   | <u>8.16</u>  | <u>AA</u>      | <u>AV</u>          | <u>6</u>  | <u>1558</u> | <u>0420</u>          | <u>X</u> | <u>X</u>  |  |             |                                |                            |
| .04                            | <u>BNE-060717</u>         |               | <u>8:27</u> | <u>15:31</u> | <u>28.65</u>   | <u>8.32</u>  | <u>AA</u>      | <u>AV</u>          | <u>6</u>  | <u>1530</u> | <u>0121</u>          | <u>X</u> | <u>X</u>  |  |             |                                |                            |
| .05                            | <u>BC-060717</u>          |               | <u>8:23</u> | <u>15:50</u> | <u>29.17</u>   | <u>10.15</u> | <u>AA</u>      | <u>AV</u>          | <u>6</u>  | <u>1515</u> | <u>0109</u>          | <u>X</u> | <u>X</u>  |  |             |                                |                            |
| .06                            | <u>BSW-060717</u>         |               | <u>8:24</u> | <u>15:29</u> | <u>29.08</u>   | <u>7.27</u>  | <u>AA</u>      | <u>AV</u>          | <u>6</u>  | <u>972</u>  | <u>0630</u>          | <u>X</u> | <u>X</u>  |  |             |                                |                            |

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time:

Andrew Vining  
 UPS

6-8-17 8:00

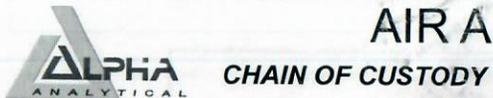
\*see second page

UPS  
6-8-17 8:00

6/12/17 11:59

# AIR ANALYSIS

PAGE 1 OF 1



320 Forbes Blvd, Mansfield, MA 02048  
TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: FARAWON

Address: 975 5TH AVENUE NW  
NORTH

Phone: 425-765-450

Fax:

Email: avin@paralabconsulting.com

These samples have been previously analyzed by Alpha

**Project Information**

Project Name: MWF

Project Location: SUTKAMISH, WA

Project #: 683-057

Project Manager: AVINAV VAINS

ALPHA Quote #:

**Turn-Around Time**

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 3-DAY Time:

**Report Information - Data Deliverables**

Date Rec'd in Lab: 6/13/17

FAX  
 ADEx

Criteria Checker: \_\_\_\_\_  
(Default based on Regulatory Criteria Indicated)

Other Formats: \_\_\_\_\_

EMAIL (standard pdf report)  
 Additional Deliverables:

Report to: (if different than Project Manager)

**ALPHA Job #:** L1719514

**Billing Information**

Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:   
SIM: BENZENE, NAPHTHALENE, 1,3 BUAADIENE

**All Columns Below Must Be Filled Out**

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID                | COLLECTION    |             |              |                |              | Sample Matrix* | Sampler's Initials | Can Size  | ID Can           | ID - Flow Controller | ANALYSIS |           |          |             |                                | Sample Comments (i.e. PID) |
|--------------------------------|--------------------------|---------------|-------------|--------------|----------------|--------------|----------------|--------------------|-----------|------------------|----------------------|----------|-----------|----------|-------------|--------------------------------|----------------------------|
|                                |                          | End Date      | Start Time  | End Time     | Initial Vacuum | Final Vacuum |                |                    |           |                  |                      | TO-15    | TO-15 SIM | APH      | Fixed Gases | Sulfides & Mercaptans by TO-15 |                            |
| <u>9574.01</u>                 | <u>256<br/>3E_060717</u> | <u>6/7/17</u> | <u>8:17</u> | <u>15:40</u> | <u>29.04</u>   | <u>6.76</u>  | <u>AA</u>      | <u>AW</u>          | <u>6L</u> | <u>1542 0908</u> | <u>Y</u>             | <u>Y</u> | <u>Y</u>  | <u>Y</u> | <u>Y</u>    |                                |                            |
|                                | <u>1C_060717</u>         | <u>6/7/17</u> | <u>8:16</u> | <u>15:36</u> | <u>29.16</u>   | <u>17.33</u> | <u>AA</u>      | <u>AW</u>          | <u>6</u>  | <u>1536 0920</u> | <u>Y</u>             | <u>Y</u> | <u>Y</u>  | <u>Y</u> | <u>Y</u>    |                                |                            |
| <u>.02</u>                     | <u>1SE_060717</u>        | <u>6/7/17</u> | <u>8:15</u> | <u>15:35</u> | <u>29.23</u>   | <u>8.16</u>  | <u>AA</u>      | <u>AW</u>          | <u>6</u>  | <u>1558 0422</u> | <u>Y</u>             | <u>Y</u> | <u>Y</u>  | <u>Y</u> | <u>Y</u>    |                                |                            |
|                                | <u>BNE_060717</u>        | <u>↓</u>      | <u>8:21</u> | <u>15:31</u> | <u>28.65</u>   | <u>8.32</u>  | <u>AA</u>      | <u>AW</u>          | <u>6</u>  | <u>1530 0121</u> | <u>X</u>             | <u>X</u> | <u>X</u>  | <u>X</u> | <u>X</u>    |                                |                            |
|                                | <u>BC_060717</u>         | <u>↓</u>      | <u>8:23</u> | <u>15:30</u> | <u>28.97</u>   | <u>10.13</u> | <u>AA</u>      | <u>AW</u>          | <u>6</u>  | <u>1585 0909</u> | <u>Y</u>             | <u>Y</u> | <u>Y</u>  | <u>Y</u> | <u>Y</u>    |                                |                            |
|                                | <u>BSW_060717</u>        | <u>↓</u>      | <u>8:24</u> | <u>15:29</u> | <u>29.08</u>   | <u>7.27</u>  | <u>AA</u>      | <u>AW</u>          | <u>6</u>  | <u>972 0630</u>  | <u>X</u>             | <u>X</u> | <u>X</u>  | <u>X</u> | <u>X</u>    |                                |                            |

\*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
SV = Soil Vapor/Landfill Gas/SVE  
Other = Please Specify

Container Type

Relinquished By: AVINAV VAINS Date/Time: 6-8-17 8:00

Received By: WIN CHANG Date/Time: 6/13/17 12:53

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

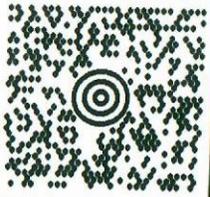
L1719514

RUSSELL LUITEN  
(425) 429-0994  
THE UPS STORE #2904  
STE 105  
14751 N KELSEY ST  
MONROE WA 98272-1457

50 LBS 1 OF 1  
SHP WT: 50 LBS  
DWT: 29.21.16  
DATE: 08 JUN 2017  
AH

SHIP ALPHA ANALYTICAL  
TO: 320 FORBES BLVD

MANSFIELD MA 02048-1806



MA 024 9-02



No Chain

Farallon # 213083

Cans # 1530

1595

1536

972

UPS 3 DAY SELECT

3

TRACKING #: 1Z A3F 983 12 4115 0583



BILLING: P/P

REF #2: SM

ISH 13.00N Z2P 450 07.5U 04/2017

Kim Beal dia 17 11:59



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1720844  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH KWF   |
| Project Number: | 683-057   |
| Report Date:    | 06/23/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

---

320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1720844-01                | BASE-061617      | AIR           | SKYKOMISH, WASHINGTON      | 06/16/17 14:57                  | 06/20/17            |
| L1720844-02                | FIRST-061617     | AIR           | SKYKOMISH, WASHINGTON      | 06/16/17 14:58                  | 06/20/17            |
| L1720844-03                | SECOND-061617    | AIR           | SKYKOMISH, WASHINGTON      | 06/16/17 15:00                  | 06/20/17            |

**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on June 15, 2017. The canister certification data is provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1720844-01: Acetone, Isopropyl Alcohol, 2-Butanone, Hexanal, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1720844-01: Multiple siloxanes, alpha-Pinene, and D-Limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1720844-02: Acetone, Isopropyl Alcohol, 2-Butanone, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1720844-02: Multiple siloxanes, alpha-Pinene, and D-Limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1720844-03: Acetone, Isopropyl Alcohol, 2-Butanone, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 06/23/17

**AIR**

**Project Name:** SKYKOMISH KWF**Lab Number:** L1720844**Project Number:** 683-057**Report Date:** 06/23/17**SAMPLE RESULTS**

**Lab ID:** L1720844-01  
**Client ID:** BASE-061617  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/22/17 17:06  
**Analyst:** RY

**Date Collected:** 06/16/17 14:57  
**Date Received:** 06/20/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.619   | 0.100 | --  | 1.98    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.052   | 0.050 | --  | 0.273   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



**Project Name:** SKYKOMISH KWF**Lab Number:** L1720844**Project Number:** 683-057**Report Date:** 06/23/17**SAMPLE RESULTS**

**Lab ID:** L1720844-02  
**Client ID:** FIRST-061617  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/22/17 17:40  
**Analyst:** RY

**Date Collected:** 06/16/17 14:58  
**Date Received:** 06/20/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.465   | 0.100 | --  | 1.49    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 82         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 79         |           | 60-140              |



**Project Name:** SKYKOMISH KWF**Lab Number:** L1720844**Project Number:** 683-057**Report Date:** 06/23/17**SAMPLE RESULTS**

**Lab ID:** L1720844-03  
**Client ID:** SECOND-061617  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/22/17 18:50  
**Analyst:** RY

**Date Collected:** 06/16/17 15:00  
**Date Received:** 06/20/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.597   | 0.100 | --  | 1.91    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.109   | 0.050 | --  | 0.572   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/22/17 14:24

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1015924-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/22/17 14:24

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1015924-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/22/17 14:24

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1015924-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/22/17 14:24

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1015924-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH KWF

Project Number: 683-057

Lab Number: L1720844

Report Date: 06/23/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1015924-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 62               | Q    | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1015924-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1015924-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 76               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH KWF

**Project Number:** 683-057

**Lab Number:** L1720844

**Report Date:** 06/23/17

| Parameter  | <i>LCS</i><br>%Recovery | <i>Qual</i> | <i>LCSD</i><br>%Recovery | <i>Qual</i> | <i>%Recovery</i><br>Limits | <i>RPD</i> | <i>Qual</i> | <i>RPD</i><br>Limits |
|--|-------------------------|-------------|--------------------------|-------------|----------------------------|------------|-------------|----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1015924-3 |                         |             |                          |             |                            |            |             |                      |
| p-Isopropyltoluene   | 80                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2-Dichlorobenzene  | 90                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| n-Butylbenzene   | 95                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,4-Trichlorobenzene   | 104                     |             | -                        |             | 70-130                     | -          |             | 25                   |
| Naphthalene  | 98                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,3-Trichlorobenzene   | 100                     |             | -                        |             | 70-130                     | -          |             | 25                   |
| Hexachlorobutadiene  | 90                      |             | -                        |             | 70-130                     | -          |             | 25                   |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH KWF

Project Number: 683-057

Lab Number: L1720844

Report Date: 06/23/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1015924-5 QC Sample: L1720844-02 Client ID: FIRST-061617 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | 0.465         | 0.459            | ppbV  | 1   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

## SAMPLE RESULTS

Lab ID: L1720844-01  
 Client ID: BASE-061617  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/22/17 17:06  
 Analyst: RY

Date Collected: 06/16/17 14:57  
 Date Received: 06/20/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 2.0 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 85  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 13  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | 1.5 |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 6.4 |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 1.8 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 95         |           | 50-200              |
| Bromochloromethane  | 92         |           | 50-200              |
| Chlorobenzene-d5    | 94         |           | 50-200              |

**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

**SAMPLE RESULTS**

Lab ID: L1720844-02  
 Client ID: FIRST-061617  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/22/17 17:40  
 Analyst: RY

Date Collected: 06/16/17 14:58  
 Date Received: 06/20/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.4    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 57     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 10     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.6    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 14     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 83         |           | 50-200              |

Project Name: SKYKOMISH KWF

Lab Number: L1720844

Project Number: 683-057

Report Date: 06/23/17

## SAMPLE RESULTS

Lab ID: L1720844-03  
 Client ID: SECOND-061617  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/22/17 18:50  
 Analyst: RY

Date Collected: 06/16/17 15:00  
 Date Received: 06/20/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 2.0    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 90     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 15     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 6.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.9    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 9400   |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 90         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 06/22/17 13:49  
Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1015921-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH KWF

**Project Number:** 683-057

**Lab Number:** L1720844

**Report Date:** 06/23/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1015921-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 108              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 96               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 100              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 102              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 84               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 86               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 86               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 91               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 105              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 99               |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 71               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH KWF

Project Number: 683-057

Lab Number: L1720844

Report Date: 06/23/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1015921-5 QC Sample: L1720590-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 11            | 11               | ug/m3 | 0   |      | 30         |
| Toluene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| o-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH KWF

Project Number: 683-057

Serial\_No:06231711:33  
Lab Number: L1720844

Report Date: 06/23/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1720844-01 | BASE-061617   | 0427     | Flow 5     | 06/15/17      | 243084       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.5            | 2     |
| L1720844-01 | BASE-061617   | 2008     | 2.7L Can   | 06/15/17      | 243084       | L1719570-01       | Pass           | -29.6                     | -7.8                         | -                        | -               | -              | -     |
| L1720844-02 | FIRST-061617  | 0636     | Flow 4     | 06/15/17      | 243084       |                   | -              | -                         | -                            | Pass                     | 4.2             | 4.4            | 5     |
| L1720844-02 | FIRST-061617  | 214      | 2.7L Can   | 06/15/17      | 243084       | L1719570-01       | Pass           | -29.1                     | -9.0                         | -                        | -               | -              | -     |
| L1720844-03 | SECOND-061617 | 0482     | Flow 5     | 06/15/17      | 243084       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.6            | 7     |
| L1720844-03 | SECOND-061617 | 2308     | 2.7L Can   | 06/15/17      | 243084       | L1719570-01       | Pass           | -29.4                     | -6.8                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 06/13/17 15:26  
 Analyst: MB

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01 Date Collected: 06/12/17 16:00  
 Client ID: CAN 133 SHELF 7 Date Received: 06/13/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01 Date Collected: 06/12/17 16:00  
 Client ID: CAN 133 SHELF 7 Date Received: 06/13/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 60-140              |
| Bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/13/17 15:26  
 Analyst: MB

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 06/23/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1719570**Project Number:** CANISTER QC BAT**Report Date:** 06/23/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1719570-01  
**Client ID:** CAN 133 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/13/17 15:26  
**Analyst:** MB

**Date Collected:** 06/12/17 16:00  
**Date Received:** 06/13/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH KWF

**Project Number:** 683-057

Serial\_No:06231711:33

**Lab Number:** L1720844

**Report Date:** 06/23/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**

N/A                              Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| L1720844-01A        | Canister - 6 Liter    | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1720844-02A        | Canister - 6 Liter    | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1720844-03A        | Canister - 6 Liter    | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH KWF  
**Project Number:** 683-057

**Lab Number:** L1720844  
**Report Date:** 06/23/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE \_\_\_\_\_ OF \_\_\_\_\_

## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: **FARALLON**  
 Address: **975 5<sup>TH</sup> AVENUE NW**  
**ISSAQUAH, WA 98027**  
 Phone: **425-295-0800**  
 Fax:  
 Email:

### Project Information

Project Name: **SKYDANISH HWF**  
 Project Location: **SKYDANISH, WASHINGTON**  
 Project #: **683-057**  
 Project Manager: **ANDREW VINING**  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: **6/20/17**

ALPHA Job #: **L1720844**

### Report Information - Data Deliverables

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: (if different than Project Manager)

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments: **3-DAY TURNAROUND**

Project-Specific Target Compound List:  **BENZENE, NAPHTHALENE, 1,3 BUTADIENE**

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID     | COLLECTION |            |          |                |              | Sample Matrix* | Sampler's Initials | Can Size | I D Can | I D - Flow Controller | TO-15 | TO-15 SIM | APH Subtract Non-petroleum HCs | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|---------------|------------|------------|----------|----------------|--------------|----------------|--------------------|----------|---------|-----------------------|-------|-----------|--------------------------------|-------------|--------------------------------|----------------------------|
|                                |               | End Date   | Start Time | End Time | Initial Vacuum | Final Vacuum |                |                    |          |         |                       |       |           |                                |             |                                |                            |
| 0844-01                        | BASE-061617   | 6/16/17    | 7:26       | 14:57    | 29.43          | 7.46         | AA             | aw                 | 2.7      | 2008    | 0427                  | X     | X         |                                |             |                                |                            |
| -02                            | FIRST-061617  | ↓          | 7:28       | 14:58    | 29.19          | 8.62         | ↓              | aw                 | 2.7      | 214     | 0636                  | X     | X         |                                |             |                                |                            |
| -03                            | SECOND-061617 | ↓          | 7:29       | 15:00    | 28.88          | 6.47         | ↓              | aw                 | 2.7      | 2308    | 0482                  | X     | X         |                                |             |                                |                            |

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

*Andrew Vining*

Date/Time

6/16/17

Received By:

*UPS*  
*Bob B...*

Date/Time:

6/16/17 17:00  
6/20/17 3:5



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1721655  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKY HWF   |
| Project Number: | 683-057   |
| Report Date:    | 06/28/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1721655-01                | BASE_062217      | AIR           | SKYKOMISH, WA              | 06/22/17 14:40                  | 06/26/17            |
| L1721655-02                | FIRST_062217     | AIR           | SKYKOMISH, WA              | 06/22/17 14:39                  | 06/26/17            |
| L1721655-03                | SECOND_062217    | AIR           | SKYKOMISH, WA              | 06/22/17 14:38                  | 06/26/17            |

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on June 20, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1721655-01 through -03: Isopropyl Alcohol, 2-Butanone, and multiple siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1721655-01 through -03: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 06/28/17

**AIR**

**Project Name:** SKY HWF**Lab Number:** L1721655**Project Number:** 683-057**Report Date:** 06/28/17**SAMPLE RESULTS**

**Lab ID:** L1721655-01  
**Client ID:** BASE\_062217  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/27/17 23:19  
**Analyst:** RY

**Date Collected:** 06/22/17 14:40  
**Date Received:** 06/26/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.311   | 0.100 | --  | 0.994   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKY HWF**Lab Number:** L1721655**Project Number:** 683-057**Report Date:** 06/28/17**SAMPLE RESULTS**

**Lab ID:** L1721655-02  
**Client ID:** FIRST\_062217  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/27/17 23:53  
**Analyst:** RY

**Date Collected:** 06/22/17 14:39  
**Date Received:** 06/26/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.362   | 0.100 | --  | 1.16    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 81         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKY HWF**Lab Number:** L1721655**Project Number:** 683-057**Report Date:** 06/28/17**SAMPLE RESULTS**

**Lab ID:** L1721655-03  
**Client ID:** SECOND\_062217  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 06/28/17 01:02  
**Analyst:** RY

**Date Collected:** 06/22/17 14:38  
**Date Received:** 06/26/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.643   | 0.100 | --  | 2.05    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/27/17 15:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1017646-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 06/27/17 15:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1017646-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 06/27/17 15:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1017646-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 06/27/17 15:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1017646-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
|  | %Recovery | Qual | %Recovery | Qual |                  |     |      |            |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1017646-3 |           |      |           |      |                  |     |      |            |
| Propylene  | 109       |      | -         |      | 70-130           | -   |      | 25         |
| Dichlorodifluoromethane  | 58        | Q    | -         |      | 70-130           | -   |      | 25         |
| Chloromethane  | 93        |      | -         |      | 70-130           | -   |      | 25         |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 83        |      | -         |      | 70-130           | -   |      | 25         |
| Vinyl chloride   | 89        |      | -         |      | 70-130           | -   |      | 25         |
| 1,3-Butadiene  | 95        |      | -         |      | 70-130           | -   |      | 25         |
| Bromomethane   | 86        |      | -         |      | 70-130           | -   |      | 25         |
| Chloroethane   | 88        |      | -         |      | 70-130           | -   |      | 25         |
| Ethyl Alcohol  | 109       |      | -         |      | 70-130           | -   |      | 25         |
| Vinyl bromide  | 83        |      | -         |      | 70-130           | -   |      | 25         |
| Acetone  | 102       |      | -         |      | 70-130           | -   |      | 25         |
| Trichlorofluoromethane   | 91        |      | -         |      | 70-130           | -   |      | 25         |
| iso-Propyl Alcohol   | 116       |      | -         |      | 70-130           | -   |      | 25         |
| Acrylonitrile  | 94        |      | -         |      | 70-130           | -   |      | 25         |
| 1,1-Dichloroethene   | 93        |      | -         |      | 70-130           | -   |      | 25         |
| tert-Butyl Alcohol <sup>1</sup>  | 88        |      | -         |      | 70-130           | -   |      | 25         |
| Methylene chloride   | 105       |      | -         |      | 70-130           | -   |      | 25         |
| 3-Chloropropene  | 109       |      | -         |      | 70-130           | -   |      | 25         |
| Carbon disulfide   | 85        |      | -         |      | 70-130           | -   |      | 25         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 87        |      | -         |      | 70-130           | -   |      | 25         |
| Halothane  | 91        |      | -         |      | 70-130           | -   |      | 25         |
| trans-1,2-Dichloroethene   | 83        |      | -         |      | 70-130           | -   |      | 25         |
| 1,1-Dichloroethane   | 89        |      | -         |      | 70-130           | -   |      | 25         |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKY HWF

Project Number: 683-057

Lab Number: L1721655

Report Date: 06/28/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1017646-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|-----------|------|-----------|------|---------------------|-----|------|---------------|
|  | %Recovery | Qual | %Recovery | Qual |                     |     |      |               |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1017646-3 |           |      |           |      |                     |     |      |               |
| Toluene  | 86        |      | -         |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 95        |      | -         |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 86        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 86        |      | -         |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 73        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 77        |      | -         |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 84        |      | -         |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 85        |      | -         |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 87        |      | -         |      | 70-130              | -   |      | 25            |
| Bromoform  | 76        |      | -         |      | 70-130              | -   |      | 25            |
| Styrene  | 84        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 97        |      | -         |      | 70-130              | -   |      | 25            |
| o-Xylene   | 89        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 87        |      | -         |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 82        |      | -         |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 86        |      | -         |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 91        |      | -         |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 92        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 99        |      | -         |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 85        |      | -         |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 88        |      | -         |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 86        |      | -         |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 85        |      | -         |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

| <b>Parameter</b>   | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1017646-3 |                          |             |                           |             |                             |            |             |                       |
| p-Isopropyltoluene   | 77                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2-Dichlorobenzene  | 85                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| n-Butylbenzene   | 93                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2,4-Trichlorobenzene   | 98                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Naphthalene  | 94                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2,3-Trichlorobenzene   | 94                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Hexachlorobutadiene  | 85                       |             | -                         |             | 70-130                      | -          |             | 25                    |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKY HWF

Project Number: 683-057

Lab Number: L1721655

Report Date: 06/28/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1017646-5 QC Sample: L1721655-02 Client ID: FIRST_062217 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | 0.362         | 0.360            | ppbV  | 1   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

## SAMPLE RESULTS

Lab ID: L1721655-01  
 Client ID: BASE\_062217  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/27/17 23:19  
 Analyst: RY

Date Collected: 06/22/17 14:40  
 Date Received: 06/26/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.0    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 78     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.7    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

**SAMPLE RESULTS**

Lab ID: L1721655-02  
 Client ID: FIRST\_062217  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/27/17 23:53  
 Analyst: RY

Date Collected: 06/22/17 14:39  
 Date Received: 06/26/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 89     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.3    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.99   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 80         |           | 50-200              |

Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

**SAMPLE RESULTS**

Lab ID: L1721655-03  
 Client ID: SECOND\_062217  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 06/28/17 01:02  
 Analyst: RY

Date Collected: 06/22/17 14:38  
 Date Received: 06/26/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

**Petroleum Hydrocarbons in Air - Mansfield Lab**

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 2.0 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 150 |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 12  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | 1.4 |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 5.9 |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 1.7 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 85         |           | 50-200              |
| Bromochloromethane  | 93         |           | 50-200              |
| Chlorobenzene-d5    | 81         |           | 50-200              |

Project Name: SKY HWF

Lab Number: L1721655

Project Number: 683-057

Report Date: 06/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 06/27/17 15:18  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1017644-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

| <b>Parameter</b>   | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1017644-3 |                          |             |                           |             |                             |            |             |                       |
| 1,3-Butadiene  | 119                      |             | -                         |             | 70-130                      | -          |             |                       |
| Methyl tert butyl ether  | 102                      |             | -                         |             | 70-130                      | -          |             |                       |
| Benzene  | 103                      |             | -                         |             | 70-130                      | -          |             |                       |
| C5-C8 Aliphatics, Adjusted   | 106                      |             | -                         |             | 70-130                      | -          |             |                       |
| Toluene  | 87                       |             | -                         |             | 70-130                      | -          |             |                       |
| Ethylbenzene   | 86                       |             | -                         |             | 70-130                      | -          |             |                       |
| p/m-Xylene   | 86                       |             | -                         |             | 70-130                      | -          |             |                       |
| o-Xylene   | 90                       |             | -                         |             | 70-130                      | -          |             |                       |
| Naphthalene  | 105                      |             | -                         |             | 50-150                      | -          |             |                       |
| C9-C12 Aliphatics, Adjusted  | 100                      |             | -                         |             | 70-130                      | -          |             |                       |
| C9-C10 Aromatics Total   | 71                       |             | -                         |             | 70-130                      | -          |             |                       |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKY HWF

Project Number: 683-057

Lab Number: L1721655

Report Date: 06/28/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1017644-5 QC Sample: L1721655-02 Client ID: FIRST_062217 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.2           | 1.2              | ug/m3 | 0   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 89            | 83               | ug/m3 | 7   |      | 30         |
| Toluene   | 6.8           | 6.6              | ug/m3 | 3   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 3.3           | 3.1              | ug/m3 | 6   |      | 30         |
| o-Xylene  | 0.99          | 1.0              | ug/m3 | 1   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKY HWF

Project Number: 683-057

Serial\_No:06281716:16  
Lab Number: L1721655

Report Date: 06/28/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1721655-01 | BASE_062217   | 0139     | Flow 5     | 06/20/17      | 243955       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.4            | 0     |
| L1721655-01 | BASE_062217   | 390      | 2.7L Can   | 06/20/17      | 243955       | L1719905-01       | Pass           | -29.4                     | -8.1                         | -                        | -               | -              | -     |
| L1721655-02 | FIRST_062217  | 0001     | Flow 5     | 06/20/17      | 243955       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1721655-02 | FIRST_062217  | 386      | 2.7L Can   | 06/20/17      | 243955       | L1719905-01       | Pass           | -29.5                     | -7.3                         | -                        | -               | -              | -     |
| L1721655-03 | SECOND_062217 | 0328     | #16 AMB    | 06/20/17      | 243955       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.4            | 0     |
| L1721655-03 | SECOND_062217 | 544      | 2.7L Can   | 06/20/17      | 243955       | L1719905-01       | Pass           | -29.6                     | -8.4                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

Lab ID: L1719905-01  
 Client ID: CAN 511 SHELF 13  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 06/14/17 19:25  
 Analyst: MB

Date Collected: 06/13/17 16:00  
 Date Received: 06/14/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

Lab ID: L1719905-01 Date Collected: 06/13/17 16:00  
 Client ID: CAN 511 SHELF 13 Date Received: 06/14/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

Lab ID: L1719905-01 Date Collected: 06/13/17 16:00  
 Client ID: CAN 511 SHELF 13 Date Received: 06/14/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

Lab ID: L1719905-01  
 Client ID: CAN 511 SHELF 13  
 Sample Location:

Date Collected: 06/13/17 16:00  
 Date Received: 06/14/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

|                  |                  |                 |                |
|------------------|------------------|-----------------|----------------|
| Lab ID:          | L1719905-01      | Date Collected: | 06/13/17 16:00 |
| Client ID:       | CAN 511 SHELF 13 | Date Received:  | 06/14/17       |
| Sample Location: |                  | Field Prep:     | Not Specified  |

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution<br>Factor |
|--|---------|----|-----|---------|----|-----|-----------|--------------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                    |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                    |

| Internal Standard   | % Recovery | Qualifier | Acceptance<br>Criteria |
|---------------------|------------|-----------|------------------------|
| 1,4-Difluorobenzene | 94         |           | 60-140                 |
| Bromochloromethane  | 93         |           | 60-140                 |
| chlorobenzene-d5    | 91         |           | 60-140                 |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

Lab ID: L1719905-01  
 Client ID: CAN 511 SHELF 13  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/14/17 19:25  
 Analyst: MB

Date Collected: 06/13/17 16:00  
 Date Received: 06/14/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

Lab ID: L1719905-01  
 Client ID: CAN 511 SHELF 13  
 Sample Location:

Date Collected: 06/13/17 16:00  
 Date Received: 06/14/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719905  
**Report Date:** 06/28/17

### Air Canister Certification Results

Lab ID: L1719905-01 Date Collected: 06/13/17 16:00  
 Client ID: CAN 511 SHELF 13 Date Received: 06/14/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 97         |           | 60-140              |
| bromochloromethane  | 98         |           | 60-140              |
| chlorobenzene-d5    | 96         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1719905**Project Number:** CANISTER QC BAT**Report Date:** 06/28/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1719905-01  
**Client ID:** CAN 511 SHELF 13  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/14/17 19:25  
**Analyst:** MB

**Date Collected:** 06/13/17 16:00  
**Date Received:** 06/14/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKY HWF**Lab Number:** L1721655**Project Number:** 683-057**Report Date:** 06/28/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                      Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1721655-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1721655-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1721655-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1721655  
**Report Date:** 06/28/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: FARALLON  
 Address: 975 5TH AVE. NW

Phone: 425-295-0800

Fax:

Email: awining@farallonconsulting.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: SIM: BENZENE, NAPHTHAENE, 1,3 BUTADIENE

### Project Information

Project Name: SU4 HWF  
 Project Location: SU4 MONISH, MA  
 Project #: 683-057  
 Project Manager: A. Vining  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: 3-DAY Time:

Date Rec'd in Lab: 6/26/17

### Report Information - Data Deliverables

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager)

ALPHA Job #: L17 21655

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID            | COLLECTION     |             |              |                |              | Sample Matrix* | Sampler's Initials | Can Size   | I D Can    | I D - Flow Controller | TO-15     | TO-15 SIM | APH<br><small>Subtract Non-petroleum HCs</small> | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|----------------------|----------------|-------------|--------------|----------------|--------------|----------------|--------------------|------------|------------|-----------------------|-----------|-----------|--|-------------|--------------------------------|----------------------------|
|                                |                      | End Date       | Start Time  | End Time     | Initial Vacuum | Final Vacuum |                |                    |            |            |                       |           |           |  |             |                                |                            |
| 21655.01                       | <u>BASE_062217</u>   | <u>6/24/17</u> | <u>7:02</u> | <u>14:40</u> | <u>29.13</u>   | <u>7.47</u>  | <u>AA</u>      | <u>QU</u>          | <u>2.7</u> | <u>390</u> | <u>0139</u>           | <u>XX</u> |           |  |             |                                |                            |
| .02                            | <u>FIRST_062217</u>  | <u>↓</u>       | <u>7:01</u> | <u>14:39</u> | <u>29.37</u>   | <u>6.66</u>  | <u>AA</u>      | <u>QU</u>          | <u>2.7</u> | <u>386</u> | <u>0001</u>           | <u>XX</u> |           |  |             |                                |                            |
| .03                            | <u>SECOND_062217</u> | <u>↓</u>       | <u>7:00</u> | <u>14:38</u> | <u>29.62</u>   | <u>7.68</u>  | <u>AA</u>      | <u>QU</u>          | <u>2.7</u> | <u>544</u> | <u>0300</u>           | <u>XX</u> |           |  |             |                                |                            |

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time:

A. Vining 6/24/17 16:30 UPS 6/22/17 16:35  
Num. B... -APL 6/26/17 12:54



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1722638  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | BNSF SKYKOMISH  |
| Project Number: | 683-057   |
| Report Date:    | 07/10/17  |

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1722638-01                | BASE_062917      | AIR           | SKYKOMISH, WA              | 06/29/17 15:08                  | 07/03/17            |
| L1722638-02                | FIRST_062917     | AIR           | SKYKOMISH, WA              | 06/29/17 15:10                  | 07/03/17            |
| L1722638-03                | SECOND_062917    | AIR           | SKYKOMISH, WA              | 06/29/17 15:12                  | 07/03/17            |
| L1722638-04                | SYSTEM_062917    | AIR           | SKYKOMISH, WA              | 06/29/17 08:00                  | 07/03/17            |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

### Case Narrative (continued)

#### Petroleum Hydrocarbons in Air

Canisters were released from the laboratory on June 26, 2017. The canister certification results are provided as an addendum.

L1722638-01: Acetone, isopropyl alcohol, methylene chloride, trimethylsilanol, butanal, 2-butanone, tetrahydrofuran, hexamethyldisiloxane, hexanal, hexamethylcyclotrisiloxane, heptanal, cyclohexanone and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1722638-01: Benzaldehyde and an unknown siloxane are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1722638-02: Acetone, isopropyl alcohol, methylene chloride, trimethylsilanol, butanal, 2-butanone, tetrahydrofuran, pentanal, hexanal, hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1722638-03: Acetone, isopropyl alcohol, methylene chloride, trimethylsilanol, butanal, 2-butanone, tetrahydrofuran, hexamethyldisiloxane, 4-methyl-2-pentanone, hexanal, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1722638-04: Isopropyl alcohol, trimethylsilanol, butanal, 2-butanone, chloroform, tetrahydrofuran, 4-methyl-2-pentanone, hexamethylcyclotrisiloxane and cyclohexanone are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 07/10/17

**AIR**

**Project Name:** BNSF SKYKOMISH**Lab Number:** L1722638**Project Number:** 683-057**Report Date:** 07/10/17**SAMPLE RESULTS**

**Lab ID:** L1722638-01  
**Client ID:** BASE\_062917  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/07/17 23:26  
**Analyst:** MB

**Date Collected:** 06/29/17 15:08  
**Date Received:** 07/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 94         |           | 60-140              |
| bromochloromethane  | 99         |           | 60-140              |
| chlorobenzene-d5    | 96         |           | 60-140              |



**Project Name:** BNSF SKYKOMISH**Lab Number:** L1722638**Project Number:** 683-057**Report Date:** 07/10/17**SAMPLE RESULTS**

**Lab ID:** L1722638-02  
**Client ID:** FIRST\_062917  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/08/17 00:10  
**Analyst:** MB

**Date Collected:** 06/29/17 15:10  
**Date Received:** 07/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.184   | 0.050 | --  | 0.965   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 82         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |



**Project Name:** BNSF SKYKOMISH**Lab Number:** L1722638**Project Number:** 683-057**Report Date:** 07/10/17**SAMPLE RESULTS**

**Lab ID:** L1722638-03  
**Client ID:** SECOND\_062917  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/08/17 00:54  
**Analyst:** MB

**Date Collected:** 06/29/17 15:12  
**Date Received:** 07/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.077   | 0.050 | --  | 0.404   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 93         |           | 60-140              |
| bromochloromethane  | 98         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |



**Project Name:** BNSF SKYKOMISH**Lab Number:** L1722638**Project Number:** 683-057**Report Date:** 07/10/17**SAMPLE RESULTS**

**Lab ID:** L1722638-04  
**Client ID:** SYSTEM\_062917  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/08/17 01:36  
**Analyst:** MB

**Date Collected:** 06/29/17 08:00  
**Date Received:** 07/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.203   | 0.100 | --  | 0.649   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.088   | 0.050 | --  | 0.461   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



Project Name: BNSF SKYKOMISH

Lab Number: L1722638

Project Number: 683-057

Report Date: 07/10/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/07/17 16:17

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1020580-4 |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** BNSF SKYKOMISH

**Project Number:** 683-057

**Lab Number:** L1722638

**Report Date:** 07/10/17

| Parameter  | <i>LCS</i><br>%Recovery | <i>Qual</i> | <i>LCSD</i><br>%Recovery | <i>Qual</i> | <i>%Recovery</i><br>Limits | <i>RPD</i> | <i>Qual</i> | <i>RPD</i><br>Limits |
|--|-------------------------|-------------|--------------------------|-------------|----------------------------|------------|-------------|----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1020580-3 |                         |             |                          |             |                            |            |             |                      |
| 1,3-Butadiene  | 89                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Benzene  | 90                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Naphthalene  | 127                     |             | -                        |             | 70-130                     | -          |             | 25                   |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: BNSF SKYKOMISH

Project Number: 683-057

Lab Number: L1722638

Report Date: 07/10/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1020580-5 QC Sample: L1722638-04 Client ID: SYSTEM_062917 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | 0.203         | 0.204            | ppbV  | 0   |      | 25         |
| Naphthalene  | 0.088         | 0.088            | ppbV  | 0   |      | 25         |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**SAMPLE RESULTS**

Lab ID: L1722638-01  
 Client ID: BASE\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/07/17 23:26  
 Analyst: MB

Date Collected: 06/29/17 15:08  
 Date Received: 07/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 48     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 95         |           | 50-200              |
| Bromochloromethane  | 100        |           | 50-200              |
| Chlorobenzene-d5    | 94         |           | 50-200              |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**SAMPLE RESULTS**

Lab ID: L1722638-02  
 Client ID: FIRST\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/08/17 00:10  
 Analyst: MB

Date Collected: 06/29/17 15:10  
 Date Received: 07/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 66     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 0.97   |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.8    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | 1.1    |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 1400   |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | 14     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 83         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**SAMPLE RESULTS**

Lab ID: L1722638-03  
 Client ID: SECOND\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/08/17 00:54  
 Analyst: MB

Date Collected: 06/29/17 15:12  
 Date Received: 07/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 32     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 2.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 530    |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 94         |           | 50-200              |
| Bromochloromethane  | 101        |           | 50-200              |
| Chlorobenzene-d5    | 92         |           | 50-200              |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**SAMPLE RESULTS**

Lab ID: L1722638-04  
 Client ID: SYSTEM\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/08/17 01:36  
 Analyst: MB

Date Collected: 06/29/17 08:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.79   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 98     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 380    |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 07/07/17 16:17  
Analyst: MB

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-04 Batch: WG1020496-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** BNSF SKYKOMISH

**Project Number:** 683-057

**Lab Number:** L1722638

**Report Date:** 07/10/17

| <b>Parameter</b>   | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-04 Batch: WG1020496-3 |                          |             |                           |             |                             |            |             |                       |
| 1,3-Butadiene  | 110                      |             | -                         |             | 70-130                      | -          |             |                       |
| Methyl tert butyl ether  | 111                      |             | -                         |             | 70-130                      | -          |             |                       |
| Benzene  | 111                      |             | -                         |             | 70-130                      | -          |             |                       |
| C5-C8 Aliphatics, Adjusted   | 115                      |             | -                         |             | 70-130                      | -          |             |                       |
| Toluene  | 112                      |             | -                         |             | 70-130                      | -          |             |                       |
| Ethylbenzene   | 119                      |             | -                         |             | 70-130                      | -          |             |                       |
| p/m-Xylene   | 117                      |             | -                         |             | 70-130                      | -          |             |                       |
| o-Xylene   | 129                      |             | -                         |             | 70-130                      | -          |             |                       |
| Naphthalene  | 150                      |             | -                         |             | 50-150                      | -          |             |                       |
| C9-C12 Aliphatics, Adjusted  | 120                      |             | -                         |             | 70-130                      | -          |             |                       |
| C9-C10 Aromatics Total   | 116                      |             | -                         |             | 70-130                      | -          |             |                       |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: BNSF SKYKOMISH

Project Number: 683-057

Lab Number: L1722638

Report Date: 07/10/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1020496-5 QC Sample: L1722638-04 Client ID: SYSTEM_062917 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | 0.79          | 0.81             | ug/m3 | 3   |      | 30         |
| C5-C8 Aliphatics, Adjusted   | 98            | 99               | ug/m3 | 1   |      | 30         |
| Toluene  | 4.5           | 4.5              | ug/m3 | 0   |      | 30         |
| Ethylbenzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene   | 3.0           | 3.0              | ug/m3 | 0   |      | 30         |
| o-Xylene   | 1.0           | 1.1              | ug/m3 | 10  |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | 380           | 380              | ug/m3 | 0   |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: BNSF SKYKOMISH

Project Number: 683-057

Serial\_No:07101714:33  
Lab Number: L1722638

Report Date: 07/10/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1722638-01 | BASE_062917   | 0447     | Flow 5     | 06/26/17      | 243088       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.4            | 2     |
| L1722638-01 | BASE_062917   | 129      | 2.7L Can   | 06/26/17      | 243088       | L1720917-01       | Pass           | -29.5                     | -8.2                         | -                        | -               | -              | -     |
| L1722638-02 | FIRST_062917  | 0788     | Flow 5     | 06/26/17      | 243088       |                   | -              | -                         | -                            | Pass                     | 4.4             | 5.0            | 13    |
| L1722638-02 | FIRST_062917  | 2213     | 2.7L Can   | 06/26/17      | 243088       | L1720917-01       | Pass           | -29.5                     | -8.3                         | -                        | -               | -              | -     |
| L1722638-03 | SECOND_062917 | 0458     | Flow 5     | 06/26/17      | 243088       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1722638-03 | SECOND_062917 | 2297     | 2.7L Can   | 06/26/17      | 243088       | L1720917-01       | Pass           | -29.5                     | -7.3                         | -                        | -               | -              | -     |
| L1722638-04 | SYSTEM_062917 | 2220     | 2.7L Can   | 06/15/17      | 243084       | L1719570-01       | Pass           | -29.7                     | -3.8                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 06/13/17 15:26  
 Analyst: MB

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 60-140              |
| Bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/13/17 15:26  
 Analyst: MB

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 06/21/17 18:03  
 Analyst: MB

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1720917

Project Number: CANISTER QC BAT

Report Date: 07/10/17

## Air Canister Certification Results

Lab ID: L1720917-01

Date Collected: 06/20/17 16:00

Client ID: CAN 342 SHELF 7

Date Received: 06/21/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 98         |           | 60-140              |
| Bromochloromethane  | 100        |           | 60-140              |
| chlorobenzene-d5    | 100        |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/21/17 18:03  
 Analyst: MB

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1720917

Project Number: CANISTER QC BAT

Report Date: 07/10/17

## Air Canister Certification Results

Lab ID: L1720917-01

Date Collected: 06/20/17 16:00

Client ID: CAN 342 SHELF 7

Date Received: 06/21/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 97         |           | 60-140              |
| bromochloromethane  | 98         |           | 60-140              |
| chlorobenzene-d5    | 98         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1719570**Project Number:** CANISTER QC BAT**Report Date:** 07/10/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1719570-01  
**Client ID:** CAN 133 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/13/17 15:26  
**Analyst:** MB

**Date Collected:** 06/12/17 16:00  
**Date Received:** 06/13/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1720917**Project Number:** CANISTER QC BAT**Report Date:** 07/10/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1720917-01  
**Client ID:** CAN 342 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/21/17 15:53  
**Analyst:** RY

**Date Collected:** 06/20/17 16:00  
**Date Received:** 06/21/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: BNSF SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1722638-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1722638-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1722638-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1722638-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE 1 OF 1

Serial No: 07101714:33



## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: FARALLON  
 Address: 975 5th Ave NW  
ISSAQUAH WA 98027  
 Phone: 425 295 0800  
 Fax: 425 295 0850  
 Email: AVINING@FARALLONCONSULTING.COM

### Project Information

Project Name: BNSF SKYKOMISH  
 Project Location: SKYKOMISH WA  
 Project #: 683 057  
 Project Manager: ANDREW VINING  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)  
**3 DAY TAT**  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

### Report Information - Data Deliverables

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager)

ALPHA Job #: L1722638

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:  SIM: BENZENE, NAPTH ALENE, 1,3 BOTA DINGE

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID            | COLLECTION     |             |             |                |              | Sample Matrix* | Sampler's Initials | Can Size   | I D Can     | I D - Flow Controller | TO-15    | TO-15 SIM | APH <small>Subtract Non-petroleum HCs</small> | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|----------------------|----------------|-------------|-------------|----------------|--------------|----------------|--------------------|------------|-------------|-----------------------|----------|-----------|---|-------------|--------------------------------|----------------------------|
|                                |                      | End Date       | Start Time  | End Time    | Initial Vacuum | Final Vacuum |                |                    |            |             |                       |          |           |   |             |                                |                            |
| <u>22638.01</u>                | <u>BASE_062917</u>   | <u>6/29/17</u> | <u>0741</u> | <u>1508</u> | <u>29.44</u>   | <u>6.95</u>  | <u>AA</u>      | <u>ROL</u>         | <u>2.7</u> | <u>129</u>  | <u>0492</u>           | <u>X</u> | <u>X</u>  |   |             |                                |                            |
| <u>.02</u>                     | <u>FIRST_062917</u>  | <u>↓</u>       | <u>0743</u> | <u>1510</u> | <u>29.22</u>   | <u>7.15</u>  | <u>AA</u>      | <u>ROL</u>         | <u>↓</u>   | <u>2213</u> | <u>0718</u>           | <u>X</u> | <u>X</u>  |   |             |                                |                            |
| <u>.03</u>                     | <u>SECOND_062917</u> | <u>↓</u>       | <u>0745</u> | <u>1512</u> | <u>29.02</u>   | <u>5.93</u>  | <u>AA</u>      | <u>ROL</u>         | <u>↓</u>   | <u>2277</u> | <u>0450</u>           | <u>X</u> | <u>X</u>  |   |             |                                |                            |
| <u>.04</u>                     | <u>SYSTEM_062917</u> | <u>↓</u>       | <u>800</u>  | <u>800</u>  | <u>-</u>       | <u>4.5</u>   | <u>AA</u>      | <u>ROL</u>         | <u>↓</u>   | <u>2220</u> | <u>-</u>              | <u>X</u> | <u>X</u>  |   |             |                                |                            |

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time:

WPS 6/29/17 1600 WPS  
WPS 7/3/17 956 Andrew Vining - AP 7/3/17 956



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1723310  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 07/13/17  |

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1723310  
**Report Date:** 07/13/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1723310-01                | BASE_070617      | AIR           | SKYKOMISH, WA              | 07/06/17 14:54                  | 07/10/17            |
| L1723310-02                | FIRST_070617     | AIR           | SKYKOMISH, WA              | 07/06/17 14:56                  | 07/10/17            |
| L1723310-03                | SECOND_070617    | AIR           | SKYKOMISH, WA              | 07/06/17 14:56                  | 07/10/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1723310  
**Report Date:** 07/13/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1723310  
**Report Date:** 07/13/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on July 3, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1723310-01: Acetone, trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, hexanal, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1723310-01: Nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1723310-02: Acetone, trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, hexanal, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1723310-02: Nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1723310-03: Acetone, trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, hexanal, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1723310  
**Report Date:** 07/13/17

### Case Narrative (continued)

L1723310-03: Nonanal, alpha-pinene and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 07/13/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1723310**Project Number:** 683-057**Report Date:** 07/13/17**SAMPLE RESULTS**

**Lab ID:** L1723310-01  
**Client ID:** BASE\_070617  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/12/17 20:29  
**Analyst:** RY

**Date Collected:** 07/06/17 14:54  
**Date Received:** 07/10/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 84         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1723310**Project Number:** 683-057**Report Date:** 07/13/17**SAMPLE RESULTS**

**Lab ID:** L1723310-02  
**Client ID:** FIRST\_070617  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/12/17 21:34  
**Analyst:** RY

**Date Collected:** 07/06/17 14:56  
**Date Received:** 07/10/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.055   | 0.050 | --  | 0.288   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1723310**Project Number:** 683-057**Report Date:** 07/13/17**SAMPLE RESULTS**

**Lab ID:** L1723310-03  
**Client ID:** SECOND\_070617  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/12/17 22:07  
**Analyst:** RY

**Date Collected:** 07/06/17 14:56  
**Date Received:** 07/10/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/12/17 17:29

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1021929-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/12/17 17:29

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1021929-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/12/17 17:29

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1021929-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/12/17 17:29

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1021929-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1723310

Report Date: 07/13/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1021929-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1021929-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1021929-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1723310

Report Date: 07/13/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1021929-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1723310

Report Date: 07/13/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1021929-5 QC Sample: L1723310-01 Client ID: BASE_070617 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Naphthalene  | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

## SAMPLE RESULTS

Lab ID: L1723310-01  
 Client ID: BASE\_070617  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/12/17 20:29  
 Analyst: MB

Date Collected: 07/06/17 14:54  
 Date Received: 07/10/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |    |  |       |      |    |   |
|-----------------------------|----|--|-------|------|----|---|
| 1,3-Butadiene               | ND |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | ND |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | ND |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

## SAMPLE RESULTS

Lab ID: L1723310-02  
 Client ID: FIRST\_070617  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/12/17 21:34  
 Analyst: MB

Date Collected: 07/06/17 14:56  
 Date Received: 07/10/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 81         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

## SAMPLE RESULTS

Lab ID: L1723310-03  
 Client ID: SECOND\_070617  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/12/17 22:07  
 Analyst: MB

Date Collected: 07/06/17 14:56  
 Date Received: 07/10/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND  |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 27  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 2.0 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND  |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND  |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 81         |           | 50-200              |
| Chlorobenzene-d5    | 78         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1723310

Project Number: 683-057

Report Date: 07/13/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 07/12/17 16:57  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1021922-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1723310

Report Date: 07/13/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1021922-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 107              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 101              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 104              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 98               |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 98               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 98               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 99               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 103              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 111              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 101              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 85               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1723310

Report Date: 07/13/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1021922-5 QC Sample: L1723310-01 Client ID: BASE_070617 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Toluene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Ethylbenzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| o-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:07131716:02  
Lab Number: L1723310

Report Date: 07/13/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1723310-01 | BASE_070617   | 0773     | Flow 4     | 07/03/17      | 243089       |                   | -              | -                         | -                            | Pass                     | 4.2             | 5.5            | 27    |
| L1723310-01 | BASE_070617   | 2196     | 2.7L Can   | 07/03/17      | 243089       | L1720917-02       | Pass           | -28.9                     | -5.8                         | -                        | -               | -              | -     |
| L1723310-02 | FIRST_070617  | 0317     | Flow 5     | 07/03/17      | 243089       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1723310-02 | FIRST_070617  | 2176     | 2.7L Can   | 07/03/17      | 243089       | L1720917-02       | Pass           | -29.8                     | -6.8                         | -                        | -               | -              | -     |
| L1723310-03 | SECOND_070617 | 0145     | Flow 4     | 07/03/17      | 243089       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.6            | 4     |
| L1723310-03 | SECOND_070617 | 2036     | 2.7L Can   | 07/03/17      | 243089       | L1720917-02       | Pass           | -29.8                     | -7.5                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/13/17

### Air Canister Certification Results

Lab ID: L1720917-02  
 Client ID: CAN 151B SHELF 10  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 06/21/17 18:38  
 Analyst: MB

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/13/17

### Air Canister Certification Results

Lab ID: L1720917-02 Date Collected: 06/20/17 16:00  
 Client ID: CAN 151B SHELF 10 Date Received: 06/21/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/13/17

### Air Canister Certification Results

Lab ID: L1720917-02 Date Collected: 06/20/17 16:00  
 Client ID: CAN 151B SHELF 10 Date Received: 06/21/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/13/17

### Air Canister Certification Results

Lab ID: L1720917-02  
 Client ID: CAN 151B SHELF 10  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1720917**Project Number:** CANISTER QC BAT**Report Date:** 07/13/17**Air Canister Certification Results**

Lab ID: L1720917-02  
 Client ID: CAN 151B SHELF 10  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 60-140              |
| Bromochloromethane  | 101        |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/13/17

### Air Canister Certification Results

Lab ID: L1720917-02  
 Client ID: CAN 151B SHELF 10  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/21/17 18:38  
 Analyst: MB

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/13/17

### Air Canister Certification Results

Lab ID: L1720917-02 Date Collected: 06/20/17 16:00  
 Client ID: CAN 151B SHELF 10 Date Received: 06/21/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1720917

Project Number: CANISTER QC BAT

Report Date: 07/13/17

## Air Canister Certification Results

Lab ID: L1720917-02

Date Collected: 06/20/17 16:00

Client ID: CAN 151B SHELF 10

Date Received: 06/21/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 96         |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1720917**Project Number:** CANISTER QC BAT**Report Date:** 07/13/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1720917-02  
**Client ID:** CAN 151B SHELF 10  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/21/17 16:27  
**Analyst:** RY

**Date Collected:** 06/20/17 16:00  
**Date Received:** 06/21/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH

**Project Number:** 683-057

Serial\_No:07131716:02

**Lab Number:** L1723310

**Report Date:** 07/13/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

**Container ID**    **Container Type**

| <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1723310  
**Report Date:** 07/13/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1723310  
**Report Date:** 07/13/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1723310  
**Report Date:** 07/13/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



**CHAIN OF CUSTODY**

**AIR ANALYSIS**

PAGE \_\_\_\_\_ OF \_\_\_\_\_

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: **FARALLON**  
 Address: **975 5th Ave NJ**  
**138th St NJ 08027**  
 Phone: **(425) 295-0800**  
 Fax: **(425) 295-0850**

Email: **AVINIAW4@FARALLON.COM**

These samples have been previously analyzed by Alpha

**Project Information**

Project Name: **BUSF SKY HUF**  
 Project Location: **SKYKOMISH WA**  
 Project #: **683-057**  
 Project Manager: **ANDREW VINO**  
 ALPHA Quote #:

**Turn-Around Time**

Standard  RUSH (only confirmed if pre-approved!)  
 Date Due: **3-DAY** Time:

Date Rec'd in Lab: **7/10/17**

**Report Information - Data Deliverables**

FAX  
 ADEx  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager)

ALPHA Job #: **L1723310**

**Billing Information**

Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:  TO-15 sim: **BENZENE, NAPHTHALENE, 1,3 BUTADIENE**

**All Columns Below Must Be Filled Out**

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID     | COLLECTION |            |          |                |              | Sample Matrix* | Sampler's Initials | Can Size | ID Can | ID - Flow Controller | ANALYSIS |           |  |  | Sample Comments (i.e. PID) |
|--------------------------------|---------------|------------|------------|----------|----------------|--------------|----------------|--------------------|----------|--------|----------------------|----------|-----------|--|--|----------------------------|
|                                |               | End Date   | Start Time | End Time | Initial Vacuum | Final Vacuum |                |                    |          |        |                      | TO-15    | TO-15 SIM | APH<br><small>Subtract Non-petroleum HCs</small> | Fixed Gases<br><small>Sulfides &amp; Mercaptans by TO-15</small> |                            |
| 23310.01                       | BASE_070617   | 7/6/17     | 0748       | 1954     | 28.52          | 4.85         | AA             | ROL                | 2.7      | 1368   | 0773                 | X        | X         |  |  |                            |
| .02                            | FIRST_070617  | ↓          | 0750       | 1456     | 29.18          | 6.04         | ↓              | ↓                  | ↓        | 1227   | 0317                 | ↓        | ↓         |  |  |                            |
| .03                            | SECOND_070617 | ↓          | 0752       | 1456     | 28.50          | 6.51         | ↓              | ↓                  | ↓        | 0984   | 0145                 | ↓        | ↓         |  |  |                            |

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time:

*[Signature]*  
URS

7/6/17 17:30

*[Signature]*  
URS  
Kim Banks - APC

7/10/17 12:35



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1724490  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 07/20/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1724490  
**Report Date:** 07/20/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b>    | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|---------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1724490-01                | BASE_071417         | AIR           | SKYKOMISH, WA              | 07/14/17 14:10                  | 07/18/17            |
| L1724490-02                | FIRST_071417        | AIR           | SKYKOMISH, WA              | 07/14/17 15:33                  | 07/18/17            |
| L1724490-03                | SECOND_071417       | AIR           | SKYKOMISH, WA              | 07/14/17 15:58                  | 07/18/17            |
| L1724490-04                | UNUSED CANISTER 122 | AIR           | SKYKOMISH, WA              |                                 | 07/18/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1724490  
**Report Date:** 07/20/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1724490  
**Report Date:** 07/20/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on July 10, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1724490-01: Acetone, trimethylsilanol, hexanal, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1724490-01: Nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1724490-02: Acetone, isopropyl alcohol, trimethylsilanol, 2-butanone, hexanal, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1724490-02: Nonanal, alpha-pinene, limonene, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1724490-03: Acetone, isopropyl alcohol, trimethylsilanol, hexanal, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1724490-03: Nonanal, alpha-pinene, limonene, decanal and unknown siloxanes are present in the C9-C12

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1724490  
**Report Date:** 07/20/17

**Case Narrative (continued)**

Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 07/20/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1724490**Project Number:** 683-057**Report Date:** 07/20/17**SAMPLE RESULTS**

**Lab ID:** L1724490-01  
**Client ID:** BASE\_071417  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/19/17 22:38  
**Analyst:** MB

**Date Collected:** 07/14/17 14:10  
**Date Received:** 07/18/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 99         |           | 60-140              |
| bromochloromethane  | 96         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1724490**Project Number:** 683-057**Report Date:** 07/20/17**SAMPLE RESULTS**

**Lab ID:** L1724490-02  
**Client ID:** FIRST\_071417  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/19/17 23:11  
**Analyst:** MB

**Date Collected:** 07/14/17 15:33  
**Date Received:** 07/18/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1724490**Project Number:** 683-057**Report Date:** 07/20/17**SAMPLE RESULTS**

**Lab ID:** L1724490-03  
**Client ID:** SECOND\_071417  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/20/17 00:16  
**Analyst:** MB

**Date Collected:** 07/14/17 15:58  
**Date Received:** 07/18/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.067   | 0.050 | --  | 0.351   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/19/17 15:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1023989-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 07/19/17 15:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1023989-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/19/17 15:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1023989-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/19/17 15:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1023989-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1724490

Report Date: 07/20/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1023989-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1724490

Report Date: 07/20/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1023989-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 120              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1724490

Report Date: 07/20/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1023989-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1724490

Report Date: 07/20/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1023989-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 83               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1724490

Report Date: 07/20/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1023989-5 QC Sample: L1724321-03 Client ID: DUP Sample |               |                  |       |     |      |            |
| Dichlorodifluoromethane   | 0.335         | 0.332            | ppbV  | 1   |      | 25         |
| Vinyl chloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,2-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1-Trichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon tetrachloride  | 0.084         | 0.086            | ppbV  | 2   |      | 25         |
| Trichloroethene   | 0.062         | 0.065            | ppbV  | 5   |      | 25         |
| Tetrachloroethene   | 0.058         | 0.059            | ppbV  | 2   |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

## SAMPLE RESULTS

Lab ID: L1724490-01  
 Client ID: BASE\_071417  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/19/17 22:38  
 Analyst: MB

Date Collected: 07/14/17 14:10  
 Date Received: 07/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |    |  |       |      |    |   |
|-----------------------------|----|--|-------|------|----|---|
| 1,3-Butadiene               | ND |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | ND |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | ND |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 103        |           | 50-200              |
| Bromochloromethane  | 101        |           | 50-200              |
| Chlorobenzene-d5    | 87         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

## SAMPLE RESULTS

Lab ID: L1724490-02  
 Client ID: FIRST\_071417  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/19/17 23:11  
 Analyst: MB

Date Collected: 07/14/17 15:33  
 Date Received: 07/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 37     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 2.0    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 16     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 52     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 12     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 35     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 92         |           | 50-200              |
| Bromochloromethane  | 97         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

## SAMPLE RESULTS

Lab ID: L1724490-03  
 Client ID: SECOND\_071417  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/20/17 00:16  
 Analyst: MB

Date Collected: 07/14/17 15:58  
 Date Received: 07/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND  |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 30  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 2.5 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | 13  |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 41  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 9.9 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 54  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 50-200              |
| Bromochloromethane  | 94         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1724490

Project Number: 683-057

Report Date: 07/20/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 07/19/17 15:13  
 Analyst: MB

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1023988-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1724490

Report Date: 07/20/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1023988-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 124              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 96               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 106              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 108              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 83               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 84               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 84               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 91               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 92               |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 96               |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 70               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1724490

Report Date: 07/20/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1023988-5 QC Sample: L1724490-02 Client ID: FIRST_071417 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 37            | 34               | ug/m3 | 8   |      | 30         |
| Toluene   | 2.0           | 1.9              | ug/m3 | 5   |      | 30         |
| Ethylbenzene  | 16            | 16               | ug/m3 | 0   |      | 30         |
| p/m-Xylene  | 52            | 51               | ug/m3 | 2   |      | 30         |
| o-Xylene  | 12            | 12               | ug/m3 | 0   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 35            | 36               | ug/m3 | 3   |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:07201716:50  
Lab Number: L1724490

Report Date: 07/20/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1724490-01 | BASE_071417   | 0488     | Flow 5     | 07/10/17      | 243090       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1724490-01 | BASE_071417   | 338      | 2.7L Can   | 07/10/17      | 243090       | L1722661-01       | Pass           | -29.5                     | -7.3                         | -                        | -               | -              | -     |
| L1724490-02 | FIRST_071417  | 0233     | Flow 5     | 07/10/17      | 243090       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.5            | 0     |
| L1724490-02 | FIRST_071417  | 377      | 2.7L Can   | 07/10/17      | 243090       | L1722661-01       | Pass           | -29.5                     | -7.8                         | -                        | -               | -              | -     |
| L1724490-03 | SECOND_071417 | 0161     | Flow 4     | 07/10/17      | 243090       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.4            | 2     |
| L1724490-03 | SECOND_071417 | 423      | 2.7L Can   | 07/10/17      | 243090       | L1722661-01       | Pass           | -29.4                     | -7.4                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01  
 Client ID: CAN 545 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/03/17 17:46  
 Analyst: MB

Date Collected: 06/30/17 17:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.201 | --  | ND      | 0.711 | --  |           | 1               |
| Propylene                                | ND      | 0.502 | --  | ND      | 0.864 | --  |           | 1               |
| Propane                                  | ND      | 0.502 | --  | ND      | 0.905 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.201 | --  | ND      | 0.994 | --  |           | 1               |
| Chloromethane                            | ND      | 0.201 | --  | ND      | 0.415 | --  |           | 1               |
| Freon-114                                | ND      | 0.201 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.02  | --  | ND      | 6.58  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.201 | --  | ND      | 0.514 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.201 | --  | ND      | 0.445 | --  |           | 1               |
| Butane                                   | ND      | 0.201 | --  | ND      | 0.478 | --  |           | 1               |
| Bromomethane                             | ND      | 0.201 | --  | ND      | 0.780 | --  |           | 1               |
| Chloroethane                             | ND      | 0.201 | --  | ND      | 0.530 | --  |           | 1               |
| Ethanol                                  | ND      | 5.02  | --  | ND      | 9.46  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.201 | --  | ND      | 0.846 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.201 | --  | ND      | 0.879 | --  |           | 1               |
| Acrolein                                 | ND      | 0.502 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.201 | --  | ND      | 0.337 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.201 | --  | ND      | 1.13  | --  |           | 1               |
| Isopropanol                              | ND      | 0.502 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.502 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.201 | --  | ND      | 0.593 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.201 | --  | ND      | 0.609 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.201 | --  | ND      | 0.797 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.502 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01  
 Client ID: CAN 545 SHELF 2  
 Sample Location:

Date Collected: 06/30/17 17:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.502 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.201 | --  | ND      | 0.629 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.201 | --  | ND      | 0.626 | --  |           | 1               |
| Freon-113                                | ND      | 0.201 | --  | ND      | 1.54  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.201 | --  | ND      | 0.797 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.201 | --  | ND      | 0.814 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.201 | --  | ND      | 0.725 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.502 | --  | ND      | 1.48  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.201 | --  | ND      | 0.797 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.502 | --  | ND      | 1.81  | --  |           | 1               |
| Chloroform                               | ND      | 0.201 | --  | ND      | 0.982 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.502 | --  | ND      | 1.48  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.201 | --  | ND      | 0.929 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.201 | --  | ND      | 0.814 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.201 | --  | ND      | 0.708 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.201 | --  | ND      | 0.840 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.201 | --  | ND      | 0.840 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.201 | --  | ND      | 0.913 | --  |           | 1               |
| Benzene                                  | ND      | 0.201 | --  | ND      | 0.642 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.201 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.201 | --  | ND      | 0.692 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.201 | --  | ND      | 0.840 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.201 | --  | ND      | 1.43  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.201 | --  | ND      | 0.929 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.201 | --  | ND      | 1.35  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.201 | --  | ND      | 0.724 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01  
 Client ID: CAN 545 SHELF 2  
 Sample Location:

Date Collected: 06/30/17 17:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.201 | --  | ND      | 1.08  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.201 | --  | ND      | 0.939 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.502 | --  | ND      | 2.06  | --  |           | 1               |
| Heptane                                  | ND      | 0.201 | --  | ND      | 0.824 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.201 | --  | ND      | 0.913 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.502 | --  | ND      | 2.06  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.201 | --  | ND      | 0.913 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| Toluene                                  | ND      | 0.201 | --  | ND      | 0.757 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.201 | --  | ND      | 0.929 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.201 | --  | ND      | 0.824 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.201 | --  | ND      | 1.71  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.201 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.502 | --  | ND      | 2.39  | --  |           | 1               |
| Octane                                   | ND      | 0.201 | --  | ND      | 0.939 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.201 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.201 | --  | ND      | 1.38  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.201 | --  | ND      | 0.926 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.201 | --  | ND      | 0.873 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.402 | --  | ND      | 1.75  | --  |           | 1               |
| Bromoform                                | ND      | 0.201 | --  | ND      | 2.08  | --  |           | 1               |
| Styrene                                  | ND      | 0.201 | --  | ND      | 0.856 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.201 | --  | ND      | 1.38  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.201 | --  | ND      | 0.873 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.201 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.201 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.201 | --  | ND      | 0.988 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.201 | --  | ND      | 0.797 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01  
 Client ID: CAN 545 SHELF 2  
 Sample Location:

Date Collected: 06/30/17 17:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.201 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.201 | --  | ND      | 0.988 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.201 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.201 | --  | ND      | 0.988 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.201 | --  | ND      | 0.988 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.201 | --  | ND      | 0.988 | --  |           | 1               |
| Decane                                   | ND      | 0.201 | --  | ND      | 1.17  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.201 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.201 | --  | ND      | 1.21  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.201 | --  | ND      | 1.21  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.201 | --  | ND      | 1.21  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.201 | --  | ND      | 1.94  | --  |           | 1               |
| Undecane                                 | ND      | 0.201 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.201 | --  | ND      | 1.40  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.201 | --  | ND      | 1.49  | --  |           | 1               |
| Naphthalene                              | ND      | 0.201 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.201 | --  | ND      | 1.49  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.201 | --  | ND      | 2.14  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01 Date Collected: 06/30/17 17:00  
 Client ID: CAN 545 SHELF 2 Date Received: 07/03/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 94         |           | 60-140              |
| Bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01  
 Client ID: CAN 545 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/03/17 17:46  
 Analyst: MB

Date Collected: 06/30/17 17:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.201 | --  | ND      | 0.994 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.201 | --  | ND      | 0.415 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.351 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.045 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.282 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.502 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.080 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.502 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.385 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.405 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.080 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.201 | --  | ND      | 0.725 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.502 | --  | ND      | 1.48  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.080 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.110 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.093 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01  
 Client ID: CAN 545 SHELF 2  
 Sample Location:

Date Collected: 06/30/17 17:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.135 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.108 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.502 | --  | ND      | 2.06  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.110 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.189 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.171 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.138 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.175 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.208 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.086 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.138 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.201 | --  | ND      | 0.988 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.099 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.099 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.099 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.201 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1722661  
**Report Date:** 07/20/17

### Air Canister Certification Results

Lab ID: L1722661-01  
 Client ID: CAN 545 SHELF 2  
 Sample Location:

Date Collected: 06/30/17 17:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.201 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.373 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.263 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.373 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.535 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1722661**Project Number:** CANISTER QC BAT**Report Date:** 07/20/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1722661-01  
**Client ID:** CAN 545 SHELF 2  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/06/17 20:33  
**Analyst:** MB

**Date Collected:** 06/30/17 17:00  
**Date Received:** 07/03/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1724490-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1724490-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1724490-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1724490-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | CLEAN-FEE()             |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1724490  
**Report Date:** 07/20/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1724490  
**Report Date:** 07/20/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1724490  
**Report Date:** 07/20/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1** Hg.

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE 1 OF 1



## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Project Information

Project Name: Skykomish School HWF  
 Project Location: Skykomish  
 Project #: 683-057  
 Project Manager: Andrew Vining  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)  
3-Day TA  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: 7/18/17

ALPHA Job #: L1724490

### Client Information

Client: Farallon Consulting LLC  
 Address: 975 Fifth Avenue NW  
Issaquah, WA 98027  
 Phone: 425-295-0800  
 Fax: AVining@farallonconsulting.com  
 Email: ↓

### Report Information - Data Deliverables

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager)

### Billing Information

Same as Client info PO #: \_\_\_\_\_

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID     | COLLECTION |            |          |        | Initial Vacuum | Final Vacuum | Sample Matrix* | Sampler's Initials | Can Size | I D Can | I D - Flow Controller | ANALYSIS |           |     |             |                                | Sample Comments (i.e. PID)    |
|--------------------------------|---------------|------------|------------|----------|--------|----------------|--------------|----------------|--------------------|----------|---------|-----------------------|----------|-----------|-----|-------------|--------------------------------|-------------------------------|
|                                |               | End Date   | Start Time | End Time |        |                |              |                |                    |          |         |                       | TO-15    | TO-15 SIM | APH | Fixed Gases | Sulfides & Mercaptans by TO-15 |                               |
| 4496-01                        | BASE_071417   | 7/14/17    | 0814       | 1410     | -29.17 | -6.47          | AA           | ELS            | 2.7L               | 338      | 0488    | X                     | X        |           |     |             |                                | * 1,3-Butadiene, Benzene, and |
| -02                            | FIRST_071417  | 7/14/17    | 0817       | 1533     | -28.57 | -6.89          | AA           | ELS            | 2.7L               | 377      | 0233    | X                     | X        |           |     |             |                                | * Naphthalene                 |
| -03                            | SECOND_071417 | 7/14/17    | 0828       | 1558     | -29.15 | -6.42          | AA           | ELS            | 2.7L               | 423      | 0161    | X                     | X        |           |     |             |                                | *                             |
|                                |               |            |            |          |        |                |              |                |                    |          |         |                       |          |           |     |             |                                |                               |
|                                |               |            |            |          |        |                |              |                |                    |          |         |                       |          |           |     |             |                                |                               |
|                                |               |            |            |          |        |                |              |                |                    |          |         |                       |          |           |     |             |                                |                               |
|                                |               |            |            |          |        |                |              |                |                    |          |         |                       |          |           |     |             |                                |                               |
|                                |               |            |            |          |        |                |              |                |                    |          |         |                       |          |           |     |             |                                |                               |

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

*Emily Spangher*  
 UPS

Date/Time

7/14/17 @ 1600

Received By:

UPS  
*Butch B...*

Date/Time:

7/18/17 13:25



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1725481  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKY HWF   |
| Project Number: | 683-057   |
| Report Date:    | 07/26/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1725481-01                | BASE_072017      | AIR           | SKYKOMISH                  | 07/20/17 16:00                  | 07/25/17            |
| L1725481-02                | FIRST_072017     | AIR           | SKYKOMISH                  | 07/20/17 16:01                  | 07/25/17            |
| L1725481-03                | SECOND_072017    | AIR           | SKYKOMISH                  | 07/20/17 16:02                  | 07/25/17            |

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on July 17, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1725481-01: Acetone, Isopropyl Alcohol, 1-Butanol and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1725481-01: Multiple Siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1725481-02: Acetone, Isopropyl Alcohol, 1-Butanol and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1725481-02: Multiple Siloxanes and alpha-Pinene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1725481-03: Acetone, Isopropyl Alcohol, 1,2-dichloroethane, 1-Butanol, Trichloroethane, Freon 113, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1725481-03: Multiple Siloxanes and alpha-Pinene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 07/26/17

**AIR**

**Project Name:** SKY HWF**Lab Number:** L1725481**Project Number:** 683-057**Report Date:** 07/26/17**SAMPLE RESULTS**

**Lab ID:** L1725481-01  
**Client ID:** BASE\_072017  
**Sample Location:** SKYKOMISH  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/25/17 20:01  
**Analyst:** RY

**Date Collected:** 07/20/17 16:00  
**Date Received:** 07/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



**Project Name:** SKY HWF**Lab Number:** L1725481**Project Number:** 683-057**Report Date:** 07/26/17**SAMPLE RESULTS**

**Lab ID:** L1725481-02  
**Client ID:** FIRST\_072017  
**Sample Location:** SKYKOMISH  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/25/17 21:06  
**Analyst:** RY

**Date Collected:** 07/20/17 16:01  
**Date Received:** 07/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.060   | 0.050 | --  | 0.315   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 79         |           | 60-140              |



**Project Name:** SKY HWF**Lab Number:** L1725481**Project Number:** 683-057**Report Date:** 07/26/17**SAMPLE RESULTS**

**Lab ID:** L1725481-03  
**Client ID:** SECOND\_072017  
**Sample Location:** SKYKOMISH  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/25/17 21:39  
**Analyst:** RY

**Date Collected:** 07/20/17 16:02  
**Date Received:** 07/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/25/17 14:17

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1025630-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/25/17 14:17

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1025630-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/25/17 14:17

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1025630-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/25/17 14:17

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1025630-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

| <b>Parameter</b>   | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1025630-3 |                          |             |                           |             |                             |            |             |                       |
| Propylene  | 108                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Dichlorodifluoromethane  | 94                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Chloromethane  | 104                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 100                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Vinyl chloride   | 103                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,3-Butadiene  | 110                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Bromomethane   | 98                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Chloroethane   | 101                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Ethyl Alcohol  | 116                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Vinyl bromide  | 93                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Acetone  | 119                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Trichlorofluoromethane   | 104                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| iso-Propyl Alcohol   | 120                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Acrylonitrile  | 101                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,1-Dichloroethene   | 107                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| tert-Butyl Alcohol <sup>1</sup>  | 92                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Methylene chloride   | 117                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| 3-Chloropropene  | 123                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Carbon disulfide   | 96                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 102                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| Halothane  | 113                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| trans-1,2-Dichloroethene   | 111                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,1-Dichloroethane   | 116                      |             | -                         |             | 70-130                      | -          |             | 25                    |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKY HWF

Project Number: 683-057

Lab Number: L1725481

Report Date: 07/26/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1025630-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 137              | Q    | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 113              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

| Parameter  | LCS       | Qual | LCS       | Qual | %Recovery | RPD | Qual | RPD    |
|--|-----------|------|-----------|------|-----------|-----|------|--------|
|  | %Recovery |      | %Recovery |      | Limits    |     |      | Limits |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1025630-3 |           |      |           |      |           |     |      |        |
| Toluene  | 92        |      | -         |      | 70-130    | -   |      | 25     |
| 2-Hexanone   | 111       |      | -         |      | 70-130    | -   |      | 25     |
| Dibromochloromethane   | 98        |      | -         |      | 70-130    | -   |      | 25     |
| 1,2-Dibromoethane  | 95        |      | -         |      | 70-130    | -   |      | 25     |
| Tetrachloroethene  | 86        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1,1,2-Tetrachloroethane  | 87        |      | -         |      | 70-130    | -   |      | 25     |
| Chlorobenzene  | 93        |      | -         |      | 70-130    | -   |      | 25     |
| Ethylbenzene   | 94        |      | -         |      | 70-130    | -   |      | 25     |
| p/m-Xylene   | 96        |      | -         |      | 70-130    | -   |      | 25     |
| Bromoform  | 94        |      | -         |      | 70-130    | -   |      | 25     |
| Styrene  | 94        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1,2,2-Tetrachloroethane  | 105       |      | -         |      | 70-130    | -   |      | 25     |
| o-Xylene   | 97        |      | -         |      | 70-130    | -   |      | 25     |
| 1,2,3-Trichloropropane <sup>1</sup>  | 94        |      | -         |      | 70-130    | -   |      | 25     |
| Isopropylbenzene   | 90        |      | -         |      | 70-130    | -   |      | 25     |
| Bromobenzene <sup>1</sup>  | 91        |      | -         |      | 70-130    | -   |      | 25     |
| 4-Ethyltoluene   | 94        |      | -         |      | 70-130    | -   |      | 25     |
| 1,3,5-Trimethylbenzene   | 96        |      | -         |      | 70-130    | -   |      | 25     |
| 1,2,4-Trimethylbenzene   | 102       |      | -         |      | 70-130    | -   |      | 25     |
| Benzyl chloride  | 97        |      | -         |      | 70-130    | -   |      | 25     |
| 1,3-Dichlorobenzene  | 97        |      | -         |      | 70-130    | -   |      | 25     |
| 1,4-Dichlorobenzene  | 94        |      | -         |      | 70-130    | -   |      | 25     |
| sec-Butylbenzene   | 93        |      | -         |      | 70-130    | -   |      | 25     |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKY HWF

Project Number: 683-057

Lab Number: L1725481

Report Date: 07/26/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1025630-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKY HWF

Project Number: 683-057

Lab Number: L1725481

Report Date: 07/26/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1025630-5 QC Sample: L1725481-01 Client ID: BASE_072017 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Naphthalene  | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

**SAMPLE RESULTS**

Lab ID: L1725481-01  
 Client ID: BASE\_072017  
 Sample Location: SKYKOMISH  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/25/17 20:01  
 Analyst: RY

Date Collected: 07/20/17 16:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

**Petroleum Hydrocarbons in Air - Mansfield Lab**

|                             |    |  |       |      |    |   |
|-----------------------------|----|--|-------|------|----|---|
| 1,3-Butadiene               | ND |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | ND |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | ND |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 81         |           | 50-200              |

Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

## SAMPLE RESULTS

Lab ID: L1725481-02  
 Client ID: FIRST\_072017  
 Sample Location: SKYKOMISH  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/25/17 21:06  
 Analyst: RY

Date Collected: 07/20/17 16:01  
 Date Received: 07/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 17     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 99     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 77         |           | 50-200              |

Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

## SAMPLE RESULTS

Lab ID: L1725481-03  
 Client ID: SECOND\_072017  
 Sample Location: SKYKOMISH  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/25/17 21:39  
 Analyst: RY

Date Collected: 07/20/17 16:02  
 Date Received: 07/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 14     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.3    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 150    |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 85         |           | 50-200              |

Project Name: SKY HWF

Lab Number: L1725481

Project Number: 683-057

Report Date: 07/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 07/25/17 14:17  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1025627-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1025627-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 125              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 98               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 113              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 115              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 88               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 87               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 89               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 93               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 96               |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 102              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 72               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKY HWF

Project Number: 683-057

Lab Number: L1725481

Report Date: 07/26/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1025627-5 QC Sample: L1725481-01 Client ID: BASE_072017 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Toluene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Ethylbenzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| o-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKY HWF

Project Number: 683-057

Serial\_No:07261715:14  
Lab Number: L1725481

Report Date: 07/26/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1725481-01 | BASE_072017   | 0775     | Flow 4     | 07/17/17      | 243091       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.5            | 0     |
| L1725481-01 | BASE_072017   | 570      | 2.7L Can   | 07/17/17      | 243091       | L1723410-02       | Pass           | -29.7                     | -6.7                         | -                        | -               | -              | -     |
| L1725481-02 | FIRST_072017  | 0337     | Flow 5     | 07/17/17      | 243091       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.5            | 2     |
| L1725481-02 | FIRST_072017  | 472      | 2.7L Can   | 07/17/17      | 243091       | L1723410-02       | Pass           | -29.8                     | -7.7                         | -                        | -               | -              | -     |
| L1725481-03 | SECOND_072017 | 0059     | Flow 5     | 07/17/17      | 243091       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.3            | 2     |
| L1725481-03 | SECOND_072017 | 184      | 2.7L Can   | 07/17/17      | 243091       | L1723410-02       | Pass           | -29.7                     | -7.7                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 07/26/17

### Air Canister Certification Results

Lab ID: L1723410-02  
 Client ID: CAN 500 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/11/17 19:09  
 Analyst: MB

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 07/26/17

### Air Canister Certification Results

Lab ID: L1723410-02  
 Client ID: CAN 500 SHELF 9  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1723410

Project Number: CANISTER QC BAT

Report Date: 07/26/17

## Air Canister Certification Results

Lab ID: L1723410-02  
 Client ID: CAN 500 SHELF 9  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 07/26/17

### Air Canister Certification Results

Lab ID: L1723410-02  
 Client ID: CAN 500 SHELF 9  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 07/26/17

### Air Canister Certification Results

Lab ID: L1723410-02 Date Collected: 07/10/17 16:00  
 Client ID: CAN 500 SHELF 9 Date Received: 07/11/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 95         |           | 60-140              |
| Bromochloromethane  | 98         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 07/26/17

### Air Canister Certification Results

Lab ID: L1723410-02  
 Client ID: CAN 500 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/11/17 19:09  
 Analyst: MB

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1723410

Project Number: CANISTER QC BAT

Report Date: 07/26/17

## Air Canister Certification Results

Lab ID: L1723410-02

Date Collected: 07/10/17 16:00

Client ID: CAN 500 SHELF 9

Date Received: 07/11/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 07/26/17

### Air Canister Certification Results

Lab ID: L1723410-02  
 Client ID: CAN 500 SHELF 9  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 100        |           | 60-140              |
| bromochloromethane  | 100        |           | 60-140              |
| chlorobenzene-d5    | 98         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1723410**Project Number:** CANISTER QC BAT**Report Date:** 07/26/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1723410-02  
**Client ID:** CAN 500 SHELF 9  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/11/17 19:09  
**Analyst:** MB

**Date Collected:** 07/10/17 16:00  
**Date Received:** 07/11/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKY HWF  
**Project Number:** 683-057

Serial\_No:07261715:14  
**Lab Number:** L1725481  
**Report Date:** 07/26/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**  
N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|-------------------------|
| L1725481-01A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1725481-02A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1725481-03A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKY HWF  
**Project Number:** 683-057

**Lab Number:** L1725481  
**Report Date:** 07/26/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE 1 OF 1

Date Rec'd in Lab: 7/25/17

ALPHA Job #: L1725481



320 Forbes Blvd, Mansfield, MA 02048  
TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: FARALLON

Address: 975 5th Ave NW

ISSAQUAH WA 98027

Phone: (425) 295 0800

Fax: (425) 295 0850

Email: AVINING@FARALLON.COM

These samples have been previously analyzed by Alpha

**Project Information**

Project Name: SKY HWF

Project Location: SKY KOMISH

Project #: 683-057

Project Manager: A. VINING

ALPHA Quote #:

**Turn-Around Time**

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 3-DAY Time:

**Report Information - Data Deliverables**

FAX  ADEX

Criteria Checker: \_\_\_\_\_  
(Default based on Regulatory Criteria Indicated)

Other Formats:

EMAIL (standard pdf report)  
 Additional Deliverables:

Report to: (if different than Project Manager)

**Billing Information**

Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:  BENZENE, <sup>117</sup>BUTADIENE, ~~NAPHTH~~ NAPHTHALENE

**ANALYSIS**

TO-15  
TO-15 SIM  
APH Subtract Non-petroleum HCs  
Fixed Gases  
Sulfides & Mercaptans by TO-15

**All Columns Below Must Be Filled Out**

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID     | COLLECTION |            |          |                |              | Sample Matrix* | Sampler's Initials | Can Size | ID Can | ID - Flow Controller | TO-15 | TO-15 SIM | APH | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|---------------|------------|------------|----------|----------------|--------------|----------------|--------------------|----------|--------|----------------------|-------|-----------|-----|-------------|--------------------------------|----------------------------|
|                                |               | End Date   | Start Time | End Time | Initial Vacuum | Final Vacuum |                |                    |          |        |                      |       |           |     |             |                                |                            |
| 5481-01                        | BASE_072017   | 7/20/17    | 800        | 1600     | 29.20          | 5.67         | AA             | MB                 | 2.7L     | 0570   | 0775                 | X     | X         |     |             |                                |                            |
| 02                             | FIRST_072017  | 7/20/17    | 801        | 1601     | 29.31          | 6.60         | AA             | MB                 | 2.7L     | 0472   | 0337                 | X     | X         |     |             |                                |                            |
| 03                             | SECOND_072017 | 7/20/17    | 1602       | 1602     | 29.36          | 6.55         | AA             | MB                 | 2.7L     | 0184   | 0059                 | X     | X         |     |             |                                |                            |

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
SV = Soil Vapor/Landfill Gas/SVE  
Other = Please Specify

Container Type

Relinquished By:   
FedEx

Date/Time: 7/21/17

Received By:   
FedEx  
Lum... - AAC

Date/Time: 7/25/17 09:18

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1726489  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 08/03/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1726489-01                | BASE_072717      | AIR           | SKYKOMISH, WA              | 07/27/17 16:03                  | 08/01/17            |
| L1726489-02                | FIRST_072717     | AIR           | SKYKOMISH, WA              | 07/27/17 16:04                  | 08/01/17            |
| L1726489-03                | SECOND_072717    | AIR           | SKYKOMISH, WA              | 07/27/17 16:05                  | 08/01/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on July 24, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1726489-01: Acetone, Tetrahydrofuran, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1726489-01: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1726489-02: Acetone, Isopropyl Alcohol, Methylene Chloride, 2-Butanone, Tetrahydrofuran, Hexanal and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1726489-02: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1726489-03: Acetone, Isopropyl Alcohol, Methylene Chloride, Tetrahydrofuran, Hexanal and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1726489-03: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 08/03/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1726489**Project Number:** 683-057**Report Date:** 08/03/17**SAMPLE RESULTS**

**Lab ID:** L1726489-01  
**Client ID:** BASE\_072717  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/03/17 00:32  
**Analyst:** RY

**Date Collected:** 07/27/17 16:03  
**Date Received:** 08/01/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 82         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1726489**Project Number:** 683-057**Report Date:** 08/03/17**SAMPLE RESULTS**

**Lab ID:** L1726489-02  
**Client ID:** FIRST\_072717  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/03/17 01:06  
**Analyst:** RY

**Date Collected:** 07/27/17 16:04  
**Date Received:** 08/01/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 81         |           | 60-140              |
| bromochloromethane  | 83         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

### SAMPLE RESULTS

Lab ID: L1726489-03  
 Client ID: SECOND\_072717  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/03/17 01:41  
 Analyst: RY

Date Collected: 07/27/17 16:05  
 Date Received: 08/01/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 79         |           | 60-140              |
| bromochloromethane  | 81         |           | 60-140              |
| chlorobenzene-d5    | 84         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/02/17 14:57

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1028224-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/02/17 14:57

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1028224-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/02/17 14:57

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1028224-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/02/17 14:57

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution<br>Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|--------------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                    |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1028224-4 |         |       |     |         |       |     |           |                    |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1                  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
|  | %Recovery | Qual | %Recovery | Qual |                  |     |      |            |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1028224-3 |           |      |           |      |                  |     |      |            |
| Propylene  | 91        |      | -         |      | 70-130           | -   |      | 25         |
| Dichlorodifluoromethane  | 77        |      | -         |      | 70-130           | -   |      | 25         |
| Chloromethane  | 83        |      | -         |      | 70-130           | -   |      | 25         |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 83        |      | -         |      | 70-130           | -   |      | 25         |
| Vinyl chloride   | 85        |      | -         |      | 70-130           | -   |      | 25         |
| 1,3-Butadiene  | 91        |      | -         |      | 70-130           | -   |      | 25         |
| Bromomethane   | 84        |      | -         |      | 70-130           | -   |      | 25         |
| Chloroethane   | 85        |      | -         |      | 70-130           | -   |      | 25         |
| Ethyl Alcohol  | 84        |      | -         |      | 70-130           | -   |      | 25         |
| Vinyl bromide  | 84        |      | -         |      | 70-130           | -   |      | 25         |
| Acetone  | 90        |      | -         |      | 70-130           | -   |      | 25         |
| Trichlorofluoromethane   | 86        |      | -         |      | 70-130           | -   |      | 25         |
| iso-Propyl Alcohol   | 98        |      | -         |      | 70-130           | -   |      | 25         |
| Acrylonitrile  | 88        |      | -         |      | 70-130           | -   |      | 25         |
| 1,1-Dichloroethene   | 86        |      | -         |      | 70-130           | -   |      | 25         |
| Methylene chloride   | 105       |      | -         |      | 70-130           | -   |      | 25         |
| 3-Chloropropene  | 98        |      | -         |      | 70-130           | -   |      | 25         |
| Carbon disulfide   | 82        |      | -         |      | 70-130           | -   |      | 25         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 85        |      | -         |      | 70-130           | -   |      | 25         |
| Halothane  | 96        |      | -         |      | 70-130           | -   |      | 25         |
| trans-1,2-Dichloroethene   | 85        |      | -         |      | 70-130           | -   |      | 25         |
| 1,1-Dichloroethane   | 87        |      | -         |      | 70-130           | -   |      | 25         |
| Methyl tert butyl ether  | 84        |      | -         |      | 70-130           | -   |      | 25         |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1028224-3 |                  |      |                   |      |                     |     |      |               |
| Vinyl acetate  | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 76               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1028224-3 |                  |      |                   |      |                     |     |      |               |
| 2-Hexanone   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene   | 81               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726489

Report Date: 08/03/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1028224-3 |                  |      |                   |      |                     |     |      |               |
| 1,2-Dichlorobenzene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726489

Report Date: 08/03/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1028224-5 QC Sample: L1726579-03 Client ID: DUP Sample |               |                  |       |     |      |            |
| Vinyl chloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,2-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1-Trichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon tetrachloride  | 0.065         | 0.065            | ppbV  | 0   |      | 25         |
| Trichloroethene   | 0.024         | 0.025            | ppbV  | 4   |      | 25         |
| Tetrachloroethene   | 0.136         | 0.136            | ppbV  | 0   |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

## SAMPLE RESULTS

Lab ID: L1726489-01  
 Client ID: BASE\_072717  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/03/17 00:32  
 Analyst: RY

Date Collected: 07/27/17 16:03  
 Date Received: 08/01/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 93         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

## SAMPLE RESULTS

Lab ID: L1726489-02  
 Client ID: FIRST\_072717  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/03/17 01:06  
 Analyst: RY

Date Collected: 07/27/17 16:04  
 Date Received: 08/01/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 80         |           | 50-200              |
| Bromochloromethane  | 84         |           | 50-200              |
| Chlorobenzene-d5    | 91         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

**SAMPLE RESULTS**

Lab ID: L1726489-03  
 Client ID: SECOND\_072717  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/03/17 01:41  
 Analyst: RY

Date Collected: 07/27/17 16:05  
 Date Received: 08/01/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 13     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 1.6    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 11     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 82         |           | 50-200              |
| Chlorobenzene-d5    | 87         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1726489

Project Number: 683-057

Report Date: 08/03/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 08/02/17 14:23  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1028225-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1028225-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 108              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 101              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 102              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 114              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 101              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 102              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 102              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 104              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 111              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 100              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 89               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726489

Report Date: 08/03/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1028225-5 QC Sample: L1726490-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 0.85          | 0.82             | ug/m3 | 4   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 550           | 600              | ug/m3 | 9   |      | 30         |
| Toluene   | 4.2           | 4.7              | ug/m3 | 11  |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 2.0           | 2.4              | ug/m3 | 18  |      | 30         |
| o-Xylene  | ND            | 0.90             | ug/m3 | NC  |      | 30         |
| Naphthalene   | 1.7           | 2.1              | ug/m3 | 21  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 3600          | 4000             | ug/m3 | 11  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:08031716:31  
Lab Number: L1726489

Report Date: 08/03/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1726489-01 | BASE_072717   | 0129     | Flow 5     | 07/24/17      | 243092       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.8            | 9     |
| L1726489-01 | BASE_072717   | 2339     | 2.7L CAN   | 07/24/17      | 243092       | L1724633-01       | Pass           | -29.4                     | -5.2                         | -                        | -               | -              | -     |
| L1726489-02 | FIRST_072717  | 0474     | Flow 5     | 07/24/17      | 243092       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1726489-02 | FIRST_072717  | 2386     | 2.7L Can   | 07/24/17      | 243092       | L1724633-01       | Pass           | -29.2                     | -6.0                         | -                        | -               | -              | -     |
| L1726489-03 | SECOND_072717 | 0594     | Flow 5     | 07/24/17      | 243092       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1726489-03 | SECOND_072717 | 172      | 2.7L Can   | 07/24/17      | 243092       | L1724633-01       | Pass           | -29.4                     | -7.6                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01  
 Client ID: CAN 238 SHELF 14  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/19/17 19:31  
 Analyst: MB

Date Collected: 07/18/17 16:00  
 Date Received: 07/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01  
 Client ID: CAN 238 SHELF 14  
 Sample Location:

Date Collected: 07/18/17 16:00  
 Date Received: 07/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01  
 Client ID: CAN 238 SHELF 14  
 Sample Location:

Date Collected: 07/18/17 16:00  
 Date Received: 07/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01  
 Client ID: CAN 238 SHELF 14  
 Sample Location:

Date Collected: 07/18/17 16:00  
 Date Received: 07/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01 Date Collected: 07/18/17 16:00  
 Client ID: CAN 238 SHELF 14 Date Received: 07/19/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 60-140              |
| Bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01  
 Client ID: CAN 238 SHELF 14  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/19/17 17:07  
 Analyst: MB

Date Collected: 07/18/17 16:00  
 Date Received: 07/19/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01  
 Client ID: CAN 238 SHELF 14  
 Sample Location:

Date Collected: 07/18/17 16:00  
 Date Received: 07/19/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724633  
**Report Date:** 08/03/17

### Air Canister Certification Results

Lab ID: L1724633-01  
 Client ID: CAN 238 SHELF 14  
 Sample Location:

Date Collected: 07/18/17 16:00  
 Date Received: 07/19/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1724633**Project Number:** CANISTER QC BAT**Report Date:** 08/03/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1724633-01  
**Client ID:** CAN 238 SHELF 14  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/19/17 17:07  
**Analyst:** MB

**Date Collected:** 07/18/17 16:00  
**Date Received:** 07/19/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH**Lab Number:** L1726489**Project Number:** 683-057**Report Date:** 08/03/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                      Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1726489-01A        | Canister - 2.7 Liter  | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1726489-02A        | Canister - 2.7 Liter  | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1726489-03A        | Canister - 2.7 Liter  | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726489  
**Report Date:** 08/03/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

CHAIN OF CUSTODY

PAGE OF

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Date Due: Time:

Date Rec'd in Lab: 8/1/17

ALPHA Job #: L1726489

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |
|           |         |                        |

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Phone: 425-295-0800  
 Fax: 425-295-0850

Email: avining@farallonconsulting.com

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

### Analysis

| TO-15                    | TO-15 SIM                | Subtract non-petroleum HCs | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |  |  |  |
|--------------------------|--------------------------|----------------------------|--------------------------|--------------------------------|-------------------------------------|--|--|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |  |  |  |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID     | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 |                          |                          |                          |                          |
|--------------------|---------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                    |               | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                          |                          |                          |                          |
| 6489-01            | BASE_072717   | 7/27/17    | 0803       | 1603     | -29.16      | 3.91      | AA             | AO               | 2.7      | 2339   | 0129               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 02                 | FIRST_072717  | 7/27/17    | 0804       | 1604     | -28.98      | 4.82      | AA             | RO               | 2.7      | 2386   | 0474               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 03                 | SECOND_072717 | 7/27/17    | 0805       | 1605     | -29.14      | 6.50      | AA             | RO               | 2.7      | 172    | 0574               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                    |               |            |            |          |             |           |                |                  |          |        |                    | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                    |               |            |            |          |             |           |                |                  |          |        |                    | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev: 25-Sept-15

|                    |              |                    |   |              |   |   |   |
|--------------------|--------------|--------------------|---|--------------|---|---|---|
| Container Type     |              | -                  | - | -            | - | - | - |
| Relinquished By    | Date/Time    | Received By:       |   | Date/Time    |   |   |   |
| <i>[Signature]</i> | 7/28/17 1030 | <i>[Signature]</i> |   | 8/29/17 1030 |   |   |   |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1727625  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 08/11/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1727625-01                | BASE_080317      | AIR           | SKYKOMISH, WA              | 08/03/17 16:25                  | 08/09/17            |
| L1727625-02                | FIRST_080317     | AIR           | SKYKOMISH, WA              | 08/03/17 16:07                  | 08/09/17            |
| L1727625-03                | SECOND_080317    | AIR           | SKYKOMISH, WA              | 08/03/17 16:28                  | 08/09/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on July 31, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1727625-01: Acetone, trichlorofluoromethane, methylene chloride, trimethylsilanol, butanal, 2-butanone, hexanal, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal, styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1727625-01: Nonanal, alpha-pinene, decanal, unknown ketone and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1727625-02: Acetone, trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, hexanal, hexamethylcyclotrisiloxane, heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1727625-02 and -03: Nonanal, alpha-pinene, decanal, an unknown ketone and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1727625-03: Acetone, trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, hexamethyldisiloxane, hexanal, tetrachloroethene, hexamethylcyclotrisiloxane, heptanal, styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 08/11/17

**AIR**

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

### SAMPLE RESULTS

Lab ID: L1727625-01  
 Client ID: BASE\_080317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/10/17 19:46  
 Analyst: MB

Date Collected: 08/03/17 16:25  
 Date Received: 08/09/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.241   | 0.100 | --  | 0.770   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.074   | 0.050 | --  | 0.388   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 94         |           | 60-140              |
| bromochloromethane  | 103        |           | 60-140              |
| chlorobenzene-d5    | 99         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1727625**Project Number:** 683-057**Report Date:** 08/11/17**SAMPLE RESULTS**

**Lab ID:** L1727625-02  
**Client ID:** FIRST\_080317  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/10/17 20:21  
**Analyst:** MB

**Date Collected:** 08/03/17 16:07  
**Date Received:** 08/09/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.231   | 0.100 | --  | 0.738   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 96         |           | 60-140              |
| bromochloromethane  | 107        |           | 60-140              |
| chlorobenzene-d5    | 102        |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1727625**Project Number:** 683-057**Report Date:** 08/11/17**SAMPLE RESULTS**

**Lab ID:** L1727625-03  
**Client ID:** SECOND\_080317  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/10/17 21:31  
**Analyst:** MB

**Date Collected:** 08/03/17 16:28  
**Date Received:** 08/09/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.262   | 0.100 | --  | 0.837   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 95         |           | 60-140              |
| bromochloromethane  | 112        |           | 60-140              |
| chlorobenzene-d5    | 105        |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1727625

Project Number: 683-057

Report Date: 08/11/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/10/17 19:11

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1030882-4 |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1727625

Report Date: 08/11/17

| Parameter  | <i>LCS</i><br>%Recovery | <i>Qual</i> | <i>LCSD</i><br>%Recovery | <i>Qual</i> | <i>%Recovery</i><br>Limits | <i>RPD</i> | <i>Qual</i> | <i>RPD</i><br>Limits |
|--|-------------------------|-------------|--------------------------|-------------|----------------------------|------------|-------------|----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1030882-3 |                         |             |                          |             |                            |            |             |                      |
| 1,3-Butadiene  | 87                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Benzene  | 81                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Naphthalene  | 130                     |             | -                        |             | 70-130                     | -          |             | 25                   |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1727625

Report Date: 08/11/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1030882-5 QC Sample: L1727625-02 Client ID: FIRST_080317 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | 0.231         | 0.238            | ppbV  | 3   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

**SAMPLE RESULTS**

Lab ID: L1727625-01  
 Client ID: BASE\_080317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/10/17 19:46  
 Analyst: MB

Date Collected: 08/03/17 16:25  
 Date Received: 08/09/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 11     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 16     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 87         |           | 50-200              |
| Bromochloromethane  | 94         |           | 50-200              |
| Chlorobenzene-d5    | 92         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1727625

Project Number: 683-057

Report Date: 08/11/17

**SAMPLE RESULTS**

Lab ID: L1727625-02  
 Client ID: FIRST\_080317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/10/17 20:21  
 Analyst: MB

Date Collected: 08/03/17 16:07  
 Date Received: 08/09/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 1.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 50-200              |
| Bromochloromethane  | 95         |           | 50-200              |
| Chlorobenzene-d5    | 95         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1727625

Project Number: 683-057

Report Date: 08/11/17

## SAMPLE RESULTS

Lab ID: L1727625-03  
 Client ID: SECOND\_080317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/10/17 21:31  
 Analyst: MB

Date Collected: 08/03/17 16:28  
 Date Received: 08/09/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 12     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 12     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 50-200              |
| Bromochloromethane  | 95         |           | 50-200              |
| Chlorobenzene-d5    | 98         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 08/10/17 18:36  
 Analyst: MB

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1030881-4 |        |           |       |      |     |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1727625

Report Date: 08/11/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1030881-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 74               |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 77               |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 111              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 111              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 112              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 112              |      | -                 |      | 70-130              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 98               |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 106              |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1727625

Report Date: 08/11/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1030881-5 QC Sample: L1727625-02 Client ID: FIRST_080317 |               |                  |       |     |      |            |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Toluene   | 1.8           | 1.8              | ug/m3 | 0   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 2.1           | 2.1              | ug/m3 | 0   |      | 30         |
| o-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Project Number: 683-057

Serial\_No:08111713:09  
Lab Number: L1727625

Report Date: 08/11/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1727625-01 | BASE_080317   | 0127     | Flow 5     | 07/31/17      | 243093       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.5            | 2     |
| L1727625-01 | BASE_080317   | 512      | 2.7L Can   | 07/31/17      | 243093       | L1725297-01       | Pass           | -29.5                     | -7.6                         | -                        | -               | -              | -     |
| L1727625-02 | FIRST_080317  | 0406     | Flow 5     | 07/31/17      | 243093       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.0            | 11    |
| L1727625-02 | FIRST_080317  | 485      | 2.7L Can   | 07/31/17      | 243093       | L1725297-01       | Pass           | -28.3                     | -5.8                         | -                        | -               | -              | -     |
| L1727625-03 | SECOND_080317 | 0630     | Flow 5     | 07/31/17      | 243093       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.8            | 9     |
| L1727625-03 | SECOND_080317 | 2280     | 2.7L Can   | 07/31/17      | 243093       | L1725478-01       | Pass           | -29.5                     | -7.8                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725297  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725297-01  
 Client ID: CAN 515 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/24/17 18:31  
 Analyst: MB

Date Collected: 07/21/17 16:00  
 Date Received: 07/24/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725297  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725297-01  
 Client ID: CAN 515 SHELF 9  
 Sample Location:

Date Collected: 07/21/17 16:00  
 Date Received: 07/24/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725297  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725297-01  
 Client ID: CAN 515 SHELF 9  
 Sample Location:

Date Collected: 07/21/17 16:00  
 Date Received: 07/24/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725297  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725297-01  
 Client ID: CAN 515 SHELF 9  
 Sample Location:

Date Collected: 07/21/17 16:00  
 Date Received: 07/24/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1725297**Project Number:** CANISTER QC BAT**Report Date:** 08/11/17**Air Canister Certification Results**

Lab ID: L1725297-01

Date Collected: 07/21/17 16:00

Client ID: CAN 515 SHELF 9

Date Received: 07/24/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 60-140              |
| Bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725297  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725297-01  
 Client ID: CAN 515 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/24/17 18:31  
 Analyst: MB

Date Collected: 07/21/17 16:00  
 Date Received: 07/24/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725297  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725297-01  
 Client ID: CAN 515 SHELF 9  
 Sample Location:

Date Collected: 07/21/17 16:00  
 Date Received: 07/24/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725297  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725297-01  
 Client ID: CAN 515 SHELF 9  
 Sample Location:

Date Collected: 07/21/17 16:00  
 Date Received: 07/24/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725478-01  
 Client ID: CAN 379 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/25/17 18:23  
 Analyst: RY

Date Collected: 07/25/17 09:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725478-01  
 Client ID: CAN 379 SHELF 8  
 Sample Location:

Date Collected: 07/25/17 09:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725478-01  
 Client ID: CAN 379 SHELF 8  
 Sample Location:

Date Collected: 07/25/17 09:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725478-01  
 Client ID: CAN 379 SHELF 8  
 Sample Location:

Date Collected: 07/25/17 09:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

|                  |                 |                 |                |
|------------------|-----------------|-----------------|----------------|
| Lab ID:          | L1725478-01     | Date Collected: | 07/25/17 09:00 |
| Client ID:       | CAN 379 SHELF 8 | Date Received:  | 07/25/17       |
| Sample Location: |                 | Field Prep:     | Not Specified  |

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 92         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725478-01  
 Client ID: CAN 379 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/25/17 18:23  
 Analyst: RY

Date Collected: 07/25/17 09:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725478-01  
 Client ID: CAN 379 SHELF 8  
 Sample Location:

Date Collected: 07/25/17 09:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725478  
**Report Date:** 08/11/17

### Air Canister Certification Results

Lab ID: L1725478-01  
 Client ID: CAN 379 SHELF 8  
 Sample Location:

Date Collected: 07/25/17 09:00  
 Date Received: 07/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 96         |           | 60-140              |
| bromochloromethane  | 96         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1725297**Project Number:** CANISTER QC BAT**Report Date:** 08/11/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1725297-01  
**Client ID:** CAN 515 SHELF 9  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/24/17 18:31  
**Analyst:** MB

**Date Collected:** 07/21/17 16:00  
**Date Received:** 07/24/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1725478**Project Number:** CANISTER QC BAT**Report Date:** 08/11/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1725478-01  
**Client ID:** CAN 379 SHELF 8  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/25/17 18:23  
**Analyst:** RY

**Date Collected:** 07/25/17 09:00  
**Date Received:** 07/25/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF

**Project Number:** 683-057

Serial\_No:08111713:09

**Lab Number:** L1727625

**Report Date:** 08/11/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**

NA                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| L1727625-01A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1727625-02A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1727625-03A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1727625  
**Report Date:** 08/11/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE 1 OF 1



320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5th Ave NW  
Issaquah, WA 98027  
 Phone: 425-295-0800  
 Fax: 425-295-0850  
 Email: AVining@FarallonConsulting.com

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish WA  
 Project #: 683-057  
 Project Manager: Andrew Vining  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: 8/9/17

### Report Information - Data Deliverables

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager)

ALPHA Job #: L1727625

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:  3 Day Turnaround  
SIM: Benzene, Napthalene, 1,3 Butadiene

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID     | COLLECTION |            |          |                |              | Sample Matrix* | Sampler's Initials | Can Size | I D Can | I D - Flow Controller | TO-15 | TO-15 SIM | APH | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|---------------|------------|------------|----------|----------------|--------------|----------------|--------------------|----------|---------|-----------------------|-------|-----------|-----|-------------|--------------------------------|----------------------------|
|                                |               | End Date   | Start Time | End Time | Initial Vacuum | Final Vacuum |                |                    |          |         |                       |       |           |     |             |                                |                            |
| 7625-01                        | BASE-080317   | 8/3/17     | 0825       | 1625     | -29.06         | -6.06        | AA             | RO                 | 2.7      | 512     | 0127                  | XX    |           |     |             |                                |                            |
| -02                            | FIRST-080317  | ↓          | 0827       | 1607     | -28.15         | -4.30        | AA             | RO                 | 2.7      | 485     | 0406                  | XX    |           |     |             |                                |                            |
| -03                            | SECOND-080317 | ↓          | 0828       | 1628     | -29.19         | -6.17        | AA             | RO                 | 2.7      | 6280    | 0630                  | XX    |           |     |             |                                |                            |

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Relinquished By:

Regan Ostrow  
USPS

Date/Time

8/4/17 @ 0600

Received By:

USPS  
Beth B...

Date/Time:

8/9/17 11:26am

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1728458  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 08/17/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1728458-01                | BASE_081017      | AIR           | SKYKOMISH, WA              | 08/10/17 15:30                  | 08/15/17            |
| L1728458-02                | FIRST_081017     | AIR           | SKYKOMISH, WA              | 08/10/17 15:32                  | 08/15/17            |
| L1728458-03                | SECOND_081017    | AIR           | SKYKOMISH, WA              | 08/10/17 15:34                  | 08/15/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on August 7, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1728458-01: Acetone, Isopropyl Alcohol, Methylene Chloride, Butanal, Hexanal, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1728458-01: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1728458-02: Acetone, Isopropyl Alcohol, Methylene Chloride, 2-Butanone, 1-Butanol, Hexanal, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1728458-02: Alpha-Pinene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1728458-03: Acetone, Isopropyl Alcohol, Methylene Chloride, 2-Butanone, 1-Butanol, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1728458-03: Alpha-Pinene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 08/17/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1728458**Project Number:** 683-057**Report Date:** 08/17/17**SAMPLE RESULTS**

**Lab ID:** L1728458-01  
**Client ID:** BASE\_081017  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/16/17 20:46  
**Analyst:** RY

**Date Collected:** 08/10/17 15:30  
**Date Received:** 08/15/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.204   | 0.100 | --  | 0.652   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 86         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1728458**Project Number:** 683-057**Report Date:** 08/17/17**SAMPLE RESULTS**

**Lab ID:** L1728458-02  
**Client ID:** FIRST\_081017  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/16/17 21:23  
**Analyst:** RY

**Date Collected:** 08/10/17 15:32  
**Date Received:** 08/15/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.233   | 0.100 | --  | 0.744   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 82         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

### SAMPLE RESULTS

Lab ID: L1728458-03  
 Client ID: SECOND\_081017  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/16/17 21:58  
 Analyst: RY

Date Collected: 08/10/17 15:34  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.249   | 0.100 | --  | 0.795   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 84         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 86         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1728458

Project Number: 683-057

Report Date: 08/17/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/16/17 14:01

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1032570-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1728458

Project Number: 683-057

Report Date: 08/17/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/16/17 14:01

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1032570-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1728458

Project Number: 683-057

Report Date: 08/17/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/16/17 14:01

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1032570-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1728458

Project Number: 683-057

Report Date: 08/17/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/16/17 14:01

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1032570-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1728458

Project Number: 683-057

Report Date: 08/17/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1032570-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 73               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1728458

Project Number: 683-057

Report Date: 08/17/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|-----------|------|-----------|------|---------------------|-----|------|---------------|
|  | %Recovery | Qual | %Recovery | Qual |                     |     |      |               |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1032570-3 |           |      |           |      |                     |     |      |               |
| Methyl tert butyl ether  | 91        |      | -         |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 88        |      | -         |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 85        |      | -         |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 92        |      | -         |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 99        |      | -         |      | 70-130              | -   |      | 25            |
| Chloroform   | 99        |      | -         |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 85        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 91        |      | -         |      | 70-130              | -   |      | 25            |
| n-Hexane   | 84        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 87        |      | -         |      | 70-130              | -   |      | 25            |
| Benzene  | 86        |      | -         |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 89        |      | -         |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 84        |      | -         |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 73        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 83        |      | -         |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 89        |      | -         |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 91        |      | -         |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 87        |      | -         |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 87        |      | -         |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 90        |      | -         |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 83        |      | -         |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 78        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 92        |      | -         |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1728458

Project Number: 683-057

Report Date: 08/17/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1032570-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1728458

Report Date: 08/17/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1032570-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 126              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 118              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1728458

Report Date: 08/17/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1032570-5 QC Sample: L1728183-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| Propylene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Dichlorodifluoromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Vinyl chloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Bromomethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethyl Alcohol   | ND            | ND               | ppbV  | NC  |      | 25         |
| Vinyl bromide   | ND            | ND               | ppbV  | NC  |      | 25         |
| Acetone   | 18.6          | 19.0             | ppbV  | 2   |      | 25         |
| Trichlorofluoromethane  | 1.11          | 1.19             | ppbV  | 7   |      | 25         |
| iso-Propyl Alcohol  | 6.37          | 6.77             | ppbV  | 6   |      | 25         |
| 1,1-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Methylene chloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| 3-Chloropropene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon disulfide  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 374           | 402              | ppbV  | 7   |      | 25         |
| trans-1,2-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Methyl tert butyl ether   | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1728458

Report Date: 08/17/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1032570-5 QC Sample: L1728183-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| Vinyl acetate   | ND            | ND               | ppbV  | NC  |      | 25         |
| 2-Butanone  | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,2-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethyl Acetate   | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroform  | ND            | ND               | ppbV  | NC  |      | 25         |
| Tetrahydrofuran   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| n-Hexane  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1-Trichloroethane   | 1.99          | 2.14             | ppbV  | 7   |      | 25         |
| Benzene   | 1.05          | 1.16             | ppbV  | 10  |      | 25         |
| Carbon tetrachloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| Cyclohexane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichloropropane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Bromodichloromethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,4-Dioxane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Trichloroethene   | 0.690         | 0.750            | ppbV  | 8   |      | 25         |
| 2,2,4-Trimethylpentane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Heptane   | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,3-Dichloropropene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 4-Methyl-2-pentanone  | ND            | ND               | ppbV  | NC  |      | 25         |
| trans-1,3-Dichloropropene   | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1032570-5 QC Sample: L1728183-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,1,2-Trichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Toluene   | 8.20          | 9.04             | ppbV  | 10  |      | 25         |
| 2-Hexanone  | ND            | ND               | ppbV  | NC  |      | 25         |
| Dibromochloromethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dibromoethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Tetrachloroethene   | 36.6          | 39.5             | ppbV  | 8   |      | 25         |
| Chlorobenzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethylbenzene  | 8.21          | 8.93             | ppbV  | 8   |      | 25         |
| p/m-Xylene  | 42.2          | 45.7             | ppbV  | 8   |      | 25         |
| Bromoform   | ND            | ND               | ppbV  | NC  |      | 25         |
| Styrene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,2,2-Tetrachloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| o-Xylene  | 20.1          | 21.8             | ppbV  | 8   |      | 25         |
| 4-Ethyltoluene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,3,5-Trimethylbenzene  | 0.440         | 0.480            | ppbV  | 9   |      | 25         |
| 1,2,4-Trimethylbenzene  | 1.22          | 1.30             | ppbV  | 6   |      | 25         |
| Benzyl chloride   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,3-Dichlorobenzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,4-Dichlorobenzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichlorobenzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2,4-Trichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1728458

Report Date: 08/17/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1032570-5 QC Sample: L1728183-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Hexachlorobutadiene   | ND            | ND               | ppbV  | NC  |      | 25         |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

**SAMPLE RESULTS**

Lab ID: L1728458-01  
 Client ID: BASE\_081017  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/16/17 20:46  
 Analyst: RY

Date Collected: 08/10/17 15:30  
 Date Received: 08/15/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.69   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 11     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 85         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

**SAMPLE RESULTS**

Lab ID: L1728458-02  
 Client ID: FIRST\_081017  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/16/17 21:23  
 Analyst: RY

Date Collected: 08/10/17 15:32  
 Date Received: 08/15/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.84   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 10     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 0.96   |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 17     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 83         |           | 50-200              |
| Chlorobenzene-d5    | 79         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

**SAMPLE RESULTS**

Lab ID: L1728458-03  
 Client ID: SECOND\_081017  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/16/17 21:58  
 Analyst: RY

Date Collected: 08/10/17 15:34  
 Date Received: 08/15/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.86   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 15     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 59     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 85         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 08/16/17 13:26  
Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1032572-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1728458

Report Date: 08/17/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1032572-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 92               |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 85               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 91               |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 98               |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 109              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 110              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 112              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 114              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 134              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 105              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 110              |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1728458

Report Date: 08/17/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1032572-5 QC Sample: L1728181-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene   | 3.9           | 4.2              | ug/m3 | 7   |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 10            | 11               | ug/m3 | 10  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 200           | 250              | ug/m3 | 22  |      | 30         |
| Toluene   | 11            | 11               | ug/m3 | 0   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 4.7           | 5.0              | ug/m3 | 6   |      | 30         |
| o-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 160           | 160              | ug/m3 | 0   |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Project Number: 683-057

Serial\_No:08171715:14  
Lab Number: L1728458

Report Date: 08/17/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1728458-01 | BASE_081017   | 0393     | #16 AMB    | 08/07/17      | 243094       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.5            | 0     |
| L1728458-01 | BASE_081017   | 496      | 2.7L Can   | 08/07/17      | 243094       | L1726592-01       | Pass           | -29.7                     | -7.2                         | -                        | -               | -              | -     |
| L1728458-02 | FIRST_081017  | 0089     | Flow 5     | 08/07/17      | 243094       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.2            | 7     |
| L1728458-02 | FIRST_081017  | 456      | 2.7L Can   | 08/07/17      | 243094       | L1724881-01       | Pass           | -29.7                     | -14.9                        | -                        | -               | -              | -     |
| L1728458-03 | SECOND_081017 | 0961     | Flow 5     | 08/07/17      | 243094       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.3            | 0     |
| L1728458-03 | SECOND_081017 | 392      | 2.7L Can   | 08/07/17      | 243094       | L1726834-01       | Pass           | -29.7                     | -9.1                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724881  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1724881-01  
 Client ID: CAN 456 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/20/17 19:10  
 Analyst: RY

Date Collected: 07/19/17 16:00  
 Date Received: 07/20/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724881  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1724881-01  
 Client ID: CAN 456 SHELF 1  
 Sample Location:

Date Collected: 07/19/17 16:00  
 Date Received: 07/20/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724881  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1724881-01  
 Client ID: CAN 456 SHELF 1  
 Sample Location:

Date Collected: 07/19/17 16:00  
 Date Received: 07/20/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724881  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1724881-01  
 Client ID: CAN 456 SHELF 1  
 Sample Location:

Date Collected: 07/19/17 16:00  
 Date Received: 07/20/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1724881**Project Number:** CANISTER QC BAT**Report Date:** 08/17/17**Air Canister Certification Results**

Lab ID: L1724881-01

Date Collected: 07/19/17 16:00

Client ID: CAN 456 SHELF 1

Date Received: 07/20/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 60-140              |
| Bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724881  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1724881-01  
 Client ID: CAN 456 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/20/17 19:10  
 Analyst: RY

Date Collected: 07/19/17 16:00  
 Date Received: 07/20/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724881  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1724881-01  
 Client ID: CAN 456 SHELF 1  
 Sample Location:

Date Collected: 07/19/17 16:00  
 Date Received: 07/20/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1724881  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1724881-01  
 Client ID: CAN 456 SHELF 1  
 Sample Location:

Date Collected: 07/19/17 16:00  
 Date Received: 07/20/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 92         |           | 60-140              |
| bromochloromethane  | 97         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/02/17 17:06  
 Analyst: RY

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethyl Alcohol                            | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| iso-Propyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| tert-Butyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane    | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Isopropyl Ether                          | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Ethyl-Tert-Butyl-Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Tertiary-Amyl Methyl Ether               | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl Acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane (C9)                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| o-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| p-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane (C10)                             | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane (C12)                           | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/02/17 17:06  
 Analyst: RY

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Propylene                                       | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane          | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol                                   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide                                   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                                 | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                                | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane           | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                                   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate                                   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran                                 | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane                                     | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane                                  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane                          | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone                                      | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location:

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane                          | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                                    | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726834  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726834-01  
 Client ID: CAN 392 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/03/17 17:31  
 Analyst: RY

Date Collected: 08/02/17 16:00  
 Date Received: 08/03/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726834  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726834-01  
 Client ID: CAN 392 SHELF 1  
 Sample Location:

Date Collected: 08/02/17 16:00  
 Date Received: 08/03/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726834  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726834-01 Date Collected: 08/02/17 16:00  
 Client ID: CAN 392 SHELF 1 Date Received: 08/03/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726834  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726834-01  
 Client ID: CAN 392 SHELF 1  
 Sample Location:

Date Collected: 08/02/17 16:00  
 Date Received: 08/03/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1726834**Project Number:** CANISTER QC BAT**Report Date:** 08/17/17**Air Canister Certification Results**

Lab ID: L1726834-01

Date Collected: 08/02/17 16:00

Client ID: CAN 392 SHELF 1

Date Received: 08/03/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 60-140              |
| Bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 101        |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726834  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726834-01  
 Client ID: CAN 392 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/03/17 17:31  
 Analyst: RY

Date Collected: 08/02/17 16:00  
 Date Received: 08/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726834  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726834-01  
 Client ID: CAN 392 SHELF 1  
 Sample Location:

Date Collected: 08/02/17 16:00  
 Date Received: 08/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726834  
**Report Date:** 08/17/17

### Air Canister Certification Results

Lab ID: L1726834-01 Date Collected: 08/02/17 16:00  
 Client ID: CAN 392 SHELF 1 Date Received: 08/03/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 95         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1724881**Project Number:** CANISTER QC BAT**Report Date:** 08/17/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1724881-01  
**Client ID:** CAN 456 SHELF 1  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/20/17 19:10  
**Analyst:** RY

**Date Collected:** 07/19/17 16:00  
**Date Received:** 07/20/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** Not Specified  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1726592  
**Report Date:** 08/17/17

**AIR CAN CERTIFICATION RESULTS**

Lab ID: L1726592-01  
 Client ID: CAN 496 SHELF 2  
 Sample Location: Not Specified  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/02/17 17:06  
 Analyst: RY

Date Collected: 08/01/17 16:00  
 Date Received: 08/02/17  
 Field Prep: Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1726834**Project Number:** CANISTER QC BAT**Report Date:** 08/17/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1726834-01  
**Client ID:** CAN 392 SHELF 1  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 08/03/17 17:31  
**Analyst:** RY

**Date Collected:** 08/02/17 16:00  
**Date Received:** 08/03/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF

**Project Number:** 683-057

Serial\_No:08171715:14

**Lab Number:** L1728458

**Report Date:** 08/17/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**

NA                              Present/Intact

**Container Information**

**Container ID**    **Container Type**

| <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

L1728458-01A    Canister - 2.7 Liter

L1728458-02A    Canister - 2.7 Liter

L1728458-03A    Canister - 2.7 Liter

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1728458  
**Report Date:** 08/17/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: FARALLON  
 Address: 975 5<sup>TH</sup> AVE NW  
ISSAQUAH WA 98027  
 Phone: (425) 295 0800  
 Fax: (425) 295 0850  
 Email: ~~BLUETTE~~ AVINING@FARA  
 These samples have been previously analyzed by Alpha

### Project Information

Project Name: SKY HWF  
 Project Location: SKYKOMISH WA  
 Project #: 683057  
 Project Manager: ANDREW VININGS  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)  
3 DAY  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: 8/15/17

### Report Information - Data Deliverables

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager) \_\_\_\_\_

ALPHA Job #: L1728458

### Billing Information

Same as Client info PO #: \_\_\_\_\_

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: 1,3-BUTADIENE, BENZENE, NAPHTHALENE

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID            | COLLECTION     |            |             |                |              | Sample Matrix* | Sampler's Initials | Can Size   | I D Can    | I D - Flow Controller | ANALYSIS                            |                                     |   |             |                                | Sample Comments (i.e. PID) |
|--------------------------------|----------------------|----------------|------------|-------------|----------------|--------------|----------------|--------------------|------------|------------|-----------------------|-------------------------------------|-------------------------------------|---|-------------|--------------------------------|----------------------------|
|                                |                      | End Date       | Start Time | End Time    | Initial Vacuum | Final Vacuum |                |                    |            |            |                       | TO-15                               | TO-15 SIM                           | APH <small>Subtract Non-petroleum HCs</small> | Fixed Gases | Sulfides & Mercaptans by TO-15 |                            |
| <u>8448-01</u>                 | <u>BASE_081017</u>   | <u>8/10/17</u> | <u>742</u> | <u>1530</u> | <u>29.12</u>   | <u>5.85</u>  | <u>AA</u>      | <u>ROL</u>         | <u>2.7</u> | <u>496</u> | <u>393</u>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |   |             |                                |                            |
| <u>02</u>                      | <u>FIRST_081017</u>  | <u>↓</u>       | <u>744</u> | <u>1532</u> | <u>29.38</u>   | <u>1403</u>  | <u>↓</u>       | <u>↓</u>           | <u>↓</u>   | <u>456</u> | <u>089</u>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |             |                                |                            |
| <u>03</u>                      | <u>SECOND_081017</u> | <u>↓</u>       | <u>746</u> | <u>1534</u> | <u>21.17</u>   | <u>772</u>   | <u>↓</u>       | <u>↓</u>           | <u>↓</u>   | <u>392</u> | <u>961</u>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |             |                                |                            |

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By: [Signature] Date/Time: 8/10/17  
 Received By: [Signature] Date/Time: 8/15/17 12:36



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1730214  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 08/30/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

---

320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730214  
**Report Date:** 08/30/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1730214-01                | BASE_082317      | AIR           | SKYKOMISH, WA              | 08/23/17 15:23                  | 08/28/17            |
| L1730214-02                | FIRST_082317     | AIR           | SKYKOMISH, WA              | 08/23/17 15:24                  | 08/28/17            |
| L1730214-03                | SECOND_082317    | AIR           | SKYKOMISH, WA              | 08/23/17 15:25                  | 08/28/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730214  
**Report Date:** 08/30/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730214  
**Report Date:** 08/30/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on August 18, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1730214-01, -02 and -03: Acetone, Isopropyl Alcohol, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1730214-01 and -03: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1730214-02: Multiple siloxanes and D-limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 08/30/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1730214**Project Number:** 683-057**Report Date:** 08/30/17**SAMPLE RESULTS**

**Lab ID:** L1730214-01  
**Client ID:** BASE\_082317  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/30/17 01:12  
**Analyst:** RY

**Date Collected:** 08/23/17 15:23  
**Date Received:** 08/28/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 77         |           | 60-140              |
| bromochloromethane  | 82         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1730214**Project Number:** 683-057**Report Date:** 08/30/17**SAMPLE RESULTS**

Lab ID: L1730214-02  
 Client ID: FIRST\_082317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/30/17 02:17  
 Analyst: RY

Date Collected: 08/23/17 15:24  
 Date Received: 08/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 81         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1730214**Project Number:** 683-057**Report Date:** 08/30/17**SAMPLE RESULTS**

**Lab ID:** L1730214-03  
**Client ID:** SECOND\_082317  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/30/17 02:50  
**Analyst:** RY

**Date Collected:** 08/23/17 15:25  
**Date Received:** 08/28/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 73         |           | 60-140              |
| bromochloromethane  | 82         |           | 60-140              |
| chlorobenzene-d5    | 77         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/29/17 15:47

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1036579-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/29/17 15:47

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1036579-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/29/17 15:47

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1036579-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/29/17 15:47

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1036579-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730214

Report Date: 08/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1036579-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 120              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730214

Report Date: 08/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1036579-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730214

Report Date: 08/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1036579-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730214

Report Date: 08/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1036579-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 123              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 114              |      | -                 |      | 70-130              | -   |      | 25            |

Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

## SAMPLE RESULTS

Lab ID: L1730214-01  
 Client ID: BASE\_082317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/30/17 01:12  
 Analyst: RY

Date Collected: 08/23/17 15:23  
 Date Received: 08/28/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 1.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 73         |           | 50-200              |
| Bromochloromethane  | 77         |           | 50-200              |
| Chlorobenzene-d5    | 78         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

## SAMPLE RESULTS

Lab ID: L1730214-02  
 Client ID: FIRST\_082317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/30/17 02:17  
 Analyst: RY

Date Collected: 08/23/17 15:24  
 Date Received: 08/28/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 0.96   |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 12     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 71         |           | 50-200              |
| Bromochloromethane  | 77         |           | 50-200              |
| Chlorobenzene-d5    | 77         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

## SAMPLE RESULTS

Lab ID: L1730214-03  
 Client ID: SECOND\_082317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/30/17 02:50  
 Analyst: RY

Date Collected: 08/23/17 15:25  
 Date Received: 08/28/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 70         |           | 50-200              |
| Bromochloromethane  | 76         |           | 50-200              |
| Chlorobenzene-d5    | 76         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1730214

Project Number: 683-057

Report Date: 08/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 08/29/17 15:47  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1036574-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730214

Report Date: 08/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1036574-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 108              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 116              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 103              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 100              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 103              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 104              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 108              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 113              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 133              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 115              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 97               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730214

Report Date: 08/30/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1036574-5 QC Sample: L1730214-01 Client ID: BASE_082317 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Toluene  | 1.1           | 1.2              | ug/m3 | 9   |      | 30         |
| Ethylbenzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| o-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:08301716:24  
Lab Number: L1730214

Report Date: 08/30/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1730214-01 | BASE_082317   | 0965     | Flow 5     | 08/18/17      | 247745       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.0            | 11    |
| L1730214-01 | BASE_082317   | 494      | 2.7L Can   | 08/18/17      | 247745       | L1728360-02       | Pass           | -30.0                     | -6.3                         | -                        | -               | -              | -     |
| L1730214-02 | FIRST_082317  | 0961     | Flow 5     | 08/18/17      | 247745       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.5            | 2     |
| L1730214-02 | FIRST_082317  | 344      | 2.7L Can   | 08/18/17      | 247745       | L1728360-02       | Pass           | -30.0                     | -8.3                         | -                        | -               | -              | -     |
| L1730214-03 | SECOND_082317 | 0393     | #16 AMB    | 08/18/17      | 247745       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1730214-03 | SECOND_082317 | 451      | 2.7L Can   | 08/18/17      | 247745       | L1728360-02       | Pass           | -30.0                     | -5.9                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728360  
**Report Date:** 08/30/17

### Air Canister Certification Results

Lab ID: L1728360-02  
 Client ID: CAN 512 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/15/17 11:09  
 Analyst: MB

Date Collected: 08/14/17 16:00  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728360  
**Report Date:** 08/30/17

### Air Canister Certification Results

Lab ID: L1728360-02  
 Client ID: CAN 512 SHELF 3  
 Sample Location:

Date Collected: 08/14/17 16:00  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728360  
**Report Date:** 08/30/17

### Air Canister Certification Results

Lab ID: L1728360-02  
 Client ID: CAN 512 SHELF 3  
 Sample Location:

Date Collected: 08/14/17 16:00  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728360  
**Report Date:** 08/30/17

### Air Canister Certification Results

Lab ID: L1728360-02  
 Client ID: CAN 512 SHELF 3  
 Sample Location:

Date Collected: 08/14/17 16:00  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1728360**Project Number:** CANISTER QC BAT**Report Date:** 08/30/17**Air Canister Certification Results**

Lab ID: L1728360-02

Date Collected: 08/14/17 16:00

Client ID: CAN 512 SHELF 3

Date Received: 08/15/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 92         |           | 60-140              |
| Bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728360  
**Report Date:** 08/30/17

### Air Canister Certification Results

Lab ID: L1728360-02  
 Client ID: CAN 512 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/15/17 11:09  
 Analyst: MB

Date Collected: 08/14/17 16:00  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



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**Project Number:** CANISTER QC BAT

**Lab Number:** L1728360  
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### Air Canister Certification Results

Lab ID: L1728360-02  
 Client ID: CAN 512 SHELF 3  
 Sample Location:

Date Collected: 08/14/17 16:00  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728360  
**Report Date:** 08/30/17

### Air Canister Certification Results

Lab ID: L1728360-02  
 Client ID: CAN 512 SHELF 3  
 Sample Location:

Date Collected: 08/14/17 16:00  
 Date Received: 08/15/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1728360**Project Number:** CANISTER QC BAT**Report Date:** 08/30/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1728360-02  
**Client ID:** CAN 512 SHELF 3  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 08/15/17 11:09  
**Analyst:** MB

**Date Collected:** 08/14/17 16:00  
**Date Received:** 08/15/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH

**Project Number:** 683-057

Serial\_No:08301716:24

**Lab Number:** L1730214

**Report Date:** 08/30/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1730214-01A        | Canister - 2.7 Liter  | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1730214-02A        | Canister - 2.7 Liter  | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1730214-03A        | Canister - 2.7 Liter  | N/A           | N/A                   | N/A                 |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730214  
**Report Date:** 08/30/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730214  
**Report Date:** 08/30/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730214  
**Report Date:** 08/30/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)  
 Date Due: 3-DAY Time:

Phone: 425-295-0800  
 Fax: 425-295-0850

Email: avining@farallonconsulting.com

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 8/28/17

ALPHA Job #: L1730214

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
| S         |         |                        |

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |  |  |  |
|--------------------------|-------------------------------------|-----------------------------------|--------------------------|--------------------------------|--|--|--|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |  |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |  |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |  |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |  |  |  |  |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |  |  |  |  |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID     | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller |
|--------------------|---------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|
|                    |               | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |
| 0214-01            | BASE_082317   | 8/23/17    | 723        | 1523     | 29.13       | 5.52      | AA             | MB               | 2.7      | 0494   | 0965               |
| -02                | FIRST_082317  | 8/23/17    | 724        | 1524     | 29.39       | 6.95      | AA             | MB               | 2.7      | 0374   | 0961               |
| -03                | SECOND_082317 | 8/23/17    | 725        | 1525     | 29.01       | 4.38      | AA             | MB               | 2.7      | 0451   | 0393               |
|                    |               |            |            |          |             |           |                |                  |          |        |                    |
|                    |               |            |            |          |             |           |                |                  |          |        |                    |
|                    |               |            |            |          |             |           |                |                  |          |        |                    |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev. 25-Sept-15

| Relinquished By            | Date/Time    | Received By:            | Date/Time    |
|----------------------------|--------------|-------------------------|--------------|
| <i>[Signature]</i><br>USPS | 8/23/17 1900 | USPS<br>Kum Barkh - AAL | 8/28/17 1400 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1731249  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 09/11/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1731249  
**Report Date:** 09/11/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1731249-01                | 083017_2SE       | AIR           | SKYKOMISH, WA              | 08/30/17 16:47                  | 09/06/17            |
| L1731249-02                | 083017_1C        | AIR           | SKYKOMISH, WA              | 08/30/17 16:45                  | 09/06/17            |
| L1731249-03                | 083017_1SE       | AIR           | SKYKOMISH, WA              | 08/30/17 16:46                  | 09/06/17            |
| L1731249-04                | 083017_BC        | AIR           | SKYKOMISH, WA              | 08/30/17 16:48                  | 09/06/17            |
| L1731249-05                | 083017_BSW       | AIR           | SKYKOMISH, WA              | 08/30/17 16:49                  | 09/06/17            |
| L1731249-06                | 083017_BNE       | AIR           | SKYKOMISH, WA              | 08/30/17 16:50                  | 09/06/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1731249  
**Report Date:** 09/11/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1731249  
**Report Date:** 09/11/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on August 22 and 29, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1731249-01: Acetone, isopropyl alcohol, 1-propanol, trimethylsilanol, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1731249-01: Limonene, alpha-pinene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1731249-02: Acetone, isopropyl alcohol, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1731249-02: Limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1731249-03: Acetone, isopropyl alcohol, trimethylsilanol, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1731249-03: Limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1731249  
**Report Date:** 09/11/17

### Case Narrative (continued)

they are not petroleum hydrocarbons.

L1731249-04: Acetone, isopropyl alcohol, trimethylsilanol, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1731249-04: Limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1731249-05: Acetone, isopropyl alcohol, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1731249-05: Limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1731249-06: Acetone, isopropyl alcohol, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1731249-06: Limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 09/11/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1731249**Project Number:** 683-057**Report Date:** 09/11/17**SAMPLE RESULTS**

**Lab ID:** L1731249-01  
**Client ID:** 083017\_2SE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/09/17 21:11  
**Analyst:** MB

**Date Collected:** 08/30/17 16:47  
**Date Received:** 09/06/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.125   | 0.100 | --  | 0.399   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.061   | 0.050 | --  | 0.320   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 67         |           | 60-140              |
| bromochloromethane  | 76         |           | 60-140              |
| chlorobenzene-d5    | 62         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1731249**Project Number:** 683-057**Report Date:** 09/11/17**SAMPLE RESULTS**

**Lab ID:** L1731249-02  
**Client ID:** 083017\_1C  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/09/17 21:45  
**Analyst:** MB

**Date Collected:** 08/30/17 16:45  
**Date Received:** 09/06/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 80         |           | 60-140              |
| chlorobenzene-d5    | 76         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1731249**Project Number:** 683-057**Report Date:** 09/11/17**SAMPLE RESULTS**

Lab ID: L1731249-03  
 Client ID: 083017\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/09/17 22:54  
 Analyst: MB

Date Collected: 08/30/17 16:46  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 74         |           | 60-140              |
| bromochloromethane  | 79         |           | 60-140              |
| chlorobenzene-d5    | 74         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1731249**Project Number:** 683-057**Report Date:** 09/11/17**SAMPLE RESULTS**

**Lab ID:** L1731249-04  
**Client ID:** 083017\_BC  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/09/17 23:29  
**Analyst:** MB

**Date Collected:** 08/30/17 16:48  
**Date Received:** 09/06/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 68         |           | 60-140              |
| bromochloromethane  | 75         |           | 60-140              |
| chlorobenzene-d5    | 65         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1731249**Project Number:** 683-057**Report Date:** 09/11/17**SAMPLE RESULTS**

**Lab ID:** L1731249-05  
**Client ID:** 083017\_BSW  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/10/17 00:03  
**Analyst:** MB

**Date Collected:** 08/30/17 16:49  
**Date Received:** 09/06/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 73         |           | 60-140              |
| bromochloromethane  | 79         |           | 60-140              |
| chlorobenzene-d5    | 73         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1731249**Project Number:** 683-057**Report Date:** 09/11/17**SAMPLE RESULTS**

**Lab ID:** L1731249-06  
**Client ID:** 083017\_BNE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/10/17 00:39  
**Analyst:** MB

**Date Collected:** 08/30/17 16:50  
**Date Received:** 09/06/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.084   | 0.020 | --  | 0.186   | 0.044 | --  |           | 1               |
| Benzene   | 0.128   | 0.100 | --  | 0.409   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 74         |           | 60-140              |
| bromochloromethane  | 79         |           | 60-140              |
| chlorobenzene-d5    | 72         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/09/17 16:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1040074-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/09/17 16:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1040074-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/09/17 16:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1040074-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/09/17 16:52

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1040074-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1731249

Report Date: 09/11/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1040074-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1731249

Report Date: 09/11/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1040074-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 77               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 78               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1040074-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1731249

Report Date: 09/11/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1040074-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 125              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 118              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1731249

Report Date: 09/11/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1040074-5 QC Sample: L1731249-02 Client ID: 083017_1C |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Naphthalene  | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

## SAMPLE RESULTS

Lab ID: L1731249-01  
 Client ID: 083017\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/17 21:11  
 Analyst: MB

Date Collected: 08/30/17 16:47  
 Date Received: 09/06/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND  |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 19  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 4.1 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND  |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 1.4 |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND  |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 28  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 66         |           | 50-200              |
| Bromochloromethane  | 75         |           | 50-200              |
| Chlorobenzene-d5    | 61         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

## SAMPLE RESULTS

Lab ID: L1731249-02  
 Client ID: 083017\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/17 21:45  
 Analyst: MB

Date Collected: 08/30/17 16:45  
 Date Received: 09/06/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |    |  |       |      |    |   |
|-----------------------------|----|--|-------|------|----|---|
| 1,3-Butadiene               | ND |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | ND |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | ND |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 74         |           | 50-200              |
| Bromochloromethane  | 79         |           | 50-200              |
| Chlorobenzene-d5    | 75         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

## SAMPLE RESULTS

Lab ID: L1731249-03  
 Client ID: 083017\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/17 22:54  
 Analyst: MB

Date Collected: 08/30/17 16:46  
 Date Received: 09/06/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 73         |           | 50-200              |
| Bromochloromethane  | 78         |           | 50-200              |
| Chlorobenzene-d5    | 73         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

## SAMPLE RESULTS

Lab ID: L1731249-04  
 Client ID: 083017\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/17 23:29  
 Analyst: MB

Date Collected: 08/30/17 16:48  
 Date Received: 09/06/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND  |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | ND  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 1.6 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND  |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND  |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 69         |           | 50-200              |
| Bromochloromethane  | 74         |           | 50-200              |
| Chlorobenzene-d5    | 63         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

## SAMPLE RESULTS

Lab ID: L1731249-05  
 Client ID: 083017\_BSW  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/10/17 00:03  
 Analyst: MB

Date Collected: 08/30/17 16:49  
 Date Received: 09/06/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND  |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | ND  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 1.0 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND  |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND  |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 73         |           | 50-200              |
| Bromochloromethane  | 75         |           | 50-200              |
| Chlorobenzene-d5    | 70         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

## SAMPLE RESULTS

Lab ID: L1731249-06  
 Client ID: 083017\_BNE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/10/17 00:39  
 Analyst: MB

Date Collected: 08/30/17 16:50  
 Date Received: 09/06/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND   |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | ND   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 0.98 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | ND   |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 73         |           | 50-200              |
| Bromochloromethane  | 78         |           | 50-200              |
| Chlorobenzene-d5    | 72         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1731249

Project Number: 683-057

Report Date: 09/11/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 09/09/17 16:16  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1040073-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1731249

Report Date: 09/11/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1040073-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 101              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 104              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 100              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 106              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 101              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 104              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 103              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 108              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 132              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 112              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 94               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1731249

Report Date: 09/11/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1040073-5 QC Sample: L1731249-02 Client ID: 083017_1C |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Toluene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Ethylbenzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| o-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:09111714:46  
Lab Number: L1731249

Report Date: 09/11/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1731249-01 | 083017_2SE | 0915     | Flow 5     | 08/29/17      | 247748       |                   | -              | -                         | -                            | Pass                     | 4.5             | 2.7            | 50    |
| L1731249-01 | 083017_2SE | 361      | 2.7L Can   | 08/29/17      | 247748       | L1729942-01       | Pass           | 30.0                      | -15.8                        | -                        | -               | -              | -     |
| L1731249-02 | 083017_1C  | 0150     | Flow 5     | 08/22/17      | 247746       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.0            | 12    |
| L1731249-02 | 083017_1C  | 554      | 2.7L Can   | 08/22/17      | 247746       | L1728997-01       | Pass           | -29.9                     | -7.1                         | -                        | -               | -              | -     |
| L1731249-03 | 083017_1SE | 0245     | Flow 5     | 08/22/17      | 247746       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.4            | 2     |
| L1731249-03 | 083017_1SE | 513      | 2.7L Can   | 08/22/17      | 247746       | L1728997-01       | Pass           | -29.9                     | -7.5                         | -                        | -               | -              | -     |
| L1731249-04 | 083017_BC  | 0328     | #16 AMB    | 08/22/17      | 247746       |                   | -              | -                         | -                            | Pass                     | 4.5             | 3.2            | 34    |
| L1731249-04 | 083017_BC  | 1745     | 2.7L Can   | 08/22/17      | 247746       | L1728997-01       | Pass           | -29.9                     | -13.9                        | -                        | -               | -              | -     |
| L1731249-05 | 083017_BSW | 0256     | Flow 4     | 08/29/17      | 247748       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.4            | 0     |
| L1731249-05 | 083017_BSW | 544      | 2.7L Can   | 08/29/17      | 247748       | L1729942-01       | Pass           | 30.0                      | -5.9                         | -                        | -               | -              | -     |
| L1731249-06 | 083017_BNE | 0248     | Flow 4     | 08/29/17      | 247748       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.0            | 10    |
| L1731249-06 | 083017_BNE | 476      | 2.7L Can   | 08/29/17      | 247748       | L1729942-01       | Pass           | 29.0                      | -8.9                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728997  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1728997-01  
 Client ID: CAN 195 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/18/17 13:25  
 Analyst: MB

Date Collected: 08/17/17 16:00  
 Date Received: 08/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728997  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1728997-01  
 Client ID: CAN 195 SHELF 3  
 Sample Location:

Date Collected: 08/17/17 16:00  
 Date Received: 08/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1728997

Project Number: CANISTER QC BAT

Report Date: 09/11/17

## Air Canister Certification Results

Lab ID: L1728997-01

Date Collected: 08/17/17 16:00

Client ID: CAN 195 SHELF 3

Date Received: 08/18/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728997  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1728997-01  
 Client ID: CAN 195 SHELF 3  
 Sample Location:

Date Collected: 08/17/17 16:00  
 Date Received: 08/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728997  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1728997-01 Date Collected: 08/17/17 16:00  
 Client ID: CAN 195 SHELF 3 Date Received: 08/18/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 60-140              |
| Bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728997  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1728997-01  
 Client ID: CAN 195 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/18/17 13:25  
 Analyst: MB

Date Collected: 08/17/17 16:00  
 Date Received: 08/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1728997  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1728997-01  
 Client ID: CAN 195 SHELF 3  
 Sample Location:

Date Collected: 08/17/17 16:00  
 Date Received: 08/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1728997

Project Number: CANISTER QC BAT

Report Date: 09/11/17

## Air Canister Certification Results

Lab ID: L1728997-01

Date Collected: 08/17/17 16:00

Client ID: CAN 195 SHELF 3

Date Received: 08/18/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729942  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1729942-01  
 Client ID: CAN 1740 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/25/17 10:03  
 Analyst: MB

Date Collected: 08/24/17 16:00  
 Date Received: 08/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729942  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1729942-01  
 Client ID: CAN 1740 SHELF 7  
 Sample Location:

Date Collected: 08/24/17 16:00  
 Date Received: 08/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729942  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1729942-01 Date Collected: 08/24/17 16:00  
 Client ID: CAN 1740 SHELF 7 Date Received: 08/25/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729942  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1729942-01  
 Client ID: CAN 1740 SHELF 7  
 Sample Location:

Date Collected: 08/24/17 16:00  
 Date Received: 08/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1729942**Project Number:** CANISTER QC BAT**Report Date:** 09/11/17**Air Canister Certification Results**

Lab ID: L1729942-01

Date Collected: 08/24/17 16:00

Client ID: CAN 1740 SHELF 7

Date Received: 08/25/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 60-140              |
| Bromochloromethane  | 99         |           | 60-140              |
| chlorobenzene-d5    | 95         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729942  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1729942-01  
 Client ID: CAN 1740 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/25/17 10:03  
 Analyst: MB

Date Collected: 08/24/17 16:00  
 Date Received: 08/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729942  
**Report Date:** 09/11/17

### Air Canister Certification Results

Lab ID: L1729942-01  
 Client ID: CAN 1740 SHELF 7  
 Sample Location:

Date Collected: 08/24/17 16:00  
 Date Received: 08/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1729942**Project Number:** CANISTER QC BAT**Report Date:** 09/11/17**Air Canister Certification Results**

Lab ID: L1729942-01

Date Collected: 08/24/17 16:00

Client ID: CAN 1740 SHELF 7

Date Received: 08/25/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 94         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1728997**Project Number:** CANISTER QC BAT**Report Date:** 09/11/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1728997-01  
**Client ID:** CAN 195 SHELF 3  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 08/18/17 13:25  
**Analyst:** MB

**Date Collected:** 08/17/17 16:00  
**Date Received:** 08/18/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1729942**Project Number:** CANISTER QC BAT**Report Date:** 09/11/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1729942-01  
**Client ID:** CAN 1740 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 08/25/17 10:03  
**Analyst:** MB

**Date Collected:** 08/24/17 16:00  
**Date Received:** 08/25/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1731249-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1731249-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1731249-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1731249-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1731249-05A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1731249-06A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1731249  
**Report Date:** 09/11/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1731249  
**Report Date:** 09/11/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1731249  
**Report Date:** 09/11/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Phone: 425-295-0800  
 Fax: 425-295-0850

Email: avining@farallonconsulting.com

Date Due: Time:

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 9/6/17

ALPHA Job #: 4731249

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

State/Fed Program Residential/Commercial

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs   | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |  |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|-------------------------------------|--|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                                     |  |
| 1249-01            | 083017_2SE | 8/30/17    | 847        | 1647     | 28.93       | 10.53     | AA             | MB               | 2.7      | 361    | 0915               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| -02                | 083017_1C  | ↓          | 845        | 1645     | 29.16       | 6.17      | AA             | MB               | 2.7      | 554    | 0150               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| -03                | 083017_1SE |            | 846        | 1646     | 28.87       | 6.26      | AA             | MB               | 2.7      | 513    | 0245               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| -04                | 083017_BC  |            | 848        | 1648     | 29.10       | 12.76     | AA             | MB               | 2.7      | 1745   | 0328               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| -05                | 083017_BSW |            | 849        | 1649     | 29.00       | 4.53      | AA             | MB               | 2.7      | 544    | 0256               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| -06                | 083017_BNE |            | 0850       | 1650     | 28.51       | 7.87      | AA             | MB               | 2.7      | 476    | 0248               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev: 25-Sept-15

| Relinquished By    |  | Date/Time     | Received By: |  | Date/Time    |
|--------------------|--|---------------|--------------|--|--------------|
| <i>[Signature]</i> |  | 8/31/17 10:30 | USPS         |  |              |
| USPS               |  | 9/6/17 11:47  | Betsy Bedt   |  | 9/6/17 11:47 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1732002  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 09/14/17  |

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1732002  
**Report Date:** 09/14/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1732002-01                | 090717_2SE       | AIR           | SKYKOMISH, WA              | 09/07/17 15:27                  | 09/11/17            |
| L1732002-02                | 090717_1C        | AIR           | SKYKOMISH, WA              | 09/07/17 15:25                  | 09/11/17            |
| L1732002-03                | 090717_1SE       | AIR           | SKYKOMISH, WA              | 09/07/17 15:26                  | 09/11/17            |
| L1732002-04                | 090717_BC        | AIR           | SKYKOMISH, WA              | 09/07/17 15:28                  | 09/11/17            |
| L1732002-05                | 090717_BSW       | AIR           | SKYKOMISH, WA              | 09/07/17 13:35                  | 09/11/17            |
| L1732002-06                | 090717_BNE       | AIR           | SKYKOMISH, WA              | 09/07/17 15:30                  | 09/11/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1732002  
**Report Date:** 09/14/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1732002  
**Report Date:** 09/14/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on September 5, 2017. The canister certification results are provided as an addendum.

Benzene has been reported by APH only as the levels were sufficient that SIM was not needed and the SIM run had a failing internal standard associated with Benzene.

L1732002-01 : The canister vacuum measured on receipt at the laboratory was > 15 in. Hg and was pressurized with Nitrogen before being used for analysis. The reporting limits have been elevated accordingly.

L1732002-01, and -03 through -06: The internal standard (IS) response for chlorobenzene-d5, and 1,4-dichlorobenzene-d4 are below the acceptance criteria. The results of the original analysis are reported; however, since the IS response was below method criteria, all associated compounds are considered to have a potentially high bias.

The WG1041286-3 LCS recoveries for halothane (134%), 1,2,4-trichlorobenzene (143%) and hexachlorobutadiene (133%) are above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of these analytes.

#### Petroleum Hydrocarbons in Air

L1732002-01 : The canister vacuum measured on receipt at the laboratory was > 15 in. Hg and was pressurized with Nitrogen before being used for analysis. The reporting limits have been elevated accordingly.

L1732002-01, -03, -04, -05 and -06: Acetone, Isopropyl Alcohol, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1732002-01 through -06: alpha-Pinene, D-Limonene, and multiple siloxanes are present in the C9-C12

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1732002  
**Report Date:** 09/14/17

### Case Narrative (continued)

Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1732002-02: Acetone, Isopropyl Alcohol, methylene chloride, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

The WG1041287-3 LCS recovery for naphthalene (154%) is above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of this analyte.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 09/14/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1732002**Project Number:** 683-057**Report Date:** 09/14/17**SAMPLE RESULTS**

Lab ID: L1732002-01 D  
 Client ID: 090717\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/13/17 22:00  
 Analyst: RY

Date Collected: 09/07/17 15:27  
 Date Received: 09/11/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.044 | --  | ND      | 0.096 | --  |           | 2.174           |
| Naphthalene                                     | ND      | 0.109 | --  | ND      | 0.572 | --  |           | 2.174           |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 59         | Q         | 60-140              |
| bromochloromethane  | 64         |           | 60-140              |
| chlorobenzene-d5    | 62         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1732002**Project Number:** 683-057**Report Date:** 09/14/17**SAMPLE RESULTS**

**Lab ID:** L1732002-02  
**Client ID:** 090717\_1C  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/13/17 22:34  
**Analyst:** RY

**Date Collected:** 09/07/17 15:25  
**Date Received:** 09/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 60         |           | 60-140              |
| bromochloromethane  | 64         |           | 60-140              |
| chlorobenzene-d5    | 62         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1732002**Project Number:** 683-057**Report Date:** 09/14/17**SAMPLE RESULTS**

**Lab ID:** L1732002-03  
**Client ID:** 090717\_1SE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/13/17 23:09  
**Analyst:** RY

**Date Collected:** 09/07/17 15:26  
**Date Received:** 09/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Naphthalene                                     | 0.061   | 0.050 | --  | 0.320   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 58         | Q         | 60-140              |
| bromochloromethane  | 63         |           | 60-140              |
| chlorobenzene-d5    | 61         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1732002**Project Number:** 683-057**Report Date:** 09/14/17**SAMPLE RESULTS**

Lab ID: L1732002-04  
 Client ID: 090717\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/13/17 23:44  
 Analyst: RY

Date Collected: 09/07/17 15:28  
 Date Received: 09/11/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 57         | Q         | 60-140              |
| bromochloromethane  | 61         |           | 60-140              |
| chlorobenzene-d5    | 60         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1732002**Project Number:** 683-057**Report Date:** 09/14/17**SAMPLE RESULTS**

**Lab ID:** L1732002-05  
**Client ID:** 090717\_BSW  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/14/17 00:19  
**Analyst:** RY

**Date Collected:** 09/07/17 13:35  
**Date Received:** 09/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 57         | Q         | 60-140              |
| bromochloromethane  | 61         |           | 60-140              |
| chlorobenzene-d5    | 59         | Q         | 60-140              |

**Project Name:** SKYKOMISH**Lab Number:** L1732002**Project Number:** 683-057**Report Date:** 09/14/17**SAMPLE RESULTS**

**Lab ID:** L1732002-06  
**Client ID:** 090717\_BNE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/14/17 00:54  
**Analyst:** RY

**Date Collected:** 09/07/17 15:30  
**Date Received:** 09/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 56         | Q         | 60-140              |
| bromochloromethane  | 62         |           | 60-140              |
| chlorobenzene-d5    | 61         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/13/17 15:05

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1041286-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/13/17 15:05

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1041286-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/13/17 15:05

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1041286-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/13/17 15:05

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1041286-4 |         |       |     |         |       |     |           |                 |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1041286-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 134              | Q    | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1732002

Report Date: 09/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1041286-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1732002

Report Date: 09/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1041286-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 123              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 122              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 129              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 122              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 126              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 128              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 128              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 126              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1732002

Report Date: 09/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1041286-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 128              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 143              | Q    | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 129              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 130              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 133              | Q    | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1732002

Report Date: 09/14/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1041286-5 QC Sample: L1700009-63 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Naphthalene   | 0.386         | 0.405            | ppbV  | 5   |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

## SAMPLE RESULTS

Lab ID: L1732002-01 D  
 Client ID: 090717\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/13/17 22:00  
 Analyst: RY

Date Collected: 09/07/17 15:27  
 Date Received: 09/11/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|--|--------|-----------|-------|-----|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |     |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 1.1 | --  | 2.2             |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 1.5 | --  | 2.2             |
| Benzene  | 2.6    |           | ug/m3 | 1.3 | --  | 2.2             |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 22  | --  | 2.2             |
| Toluene  | 7.5    |           | ug/m3 | 2.0 | --  | 2.2             |
| Ethylbenzene   | ND     |           | ug/m3 | 2.0 | --  | 2.2             |
| p/m-Xylene   | 2.1    |           | ug/m3 | 2.0 | --  | 2.2             |
| o-Xylene   | ND     |           | ug/m3 | 2.0 | --  | 2.2             |
| Naphthalene  | ND     |           | ug/m3 | 2.4 | --  | 2.2             |
| C9-C12 Aliphatics, Adjusted                          | 62     |           | ug/m3 | 22  | --  | 2.2             |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 22  | --  | 2.2             |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 55         |           | 50-200              |
| Bromochloromethane  | 61         |           | 50-200              |
| Chlorobenzene-d5    | 60         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

## SAMPLE RESULTS

Lab ID: L1732002-02  
 Client ID: 090717\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/13/17 22:34  
 Analyst: RY

Date Collected: 09/07/17 15:25  
 Date Received: 09/11/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 2.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 11     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 57         |           | 50-200              |
| Bromochloromethane  | 61         |           | 50-200              |
| Chlorobenzene-d5    | 59         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

## SAMPLE RESULTS

Lab ID: L1732002-03  
 Client ID: 090717\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/13/17 23:09  
 Analyst: RY

Date Collected: 09/07/17 15:26  
 Date Received: 09/11/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 2.7 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 18  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 5.5 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND  |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.2 |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND  |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 22  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 54         |           | 50-200              |
| Bromochloromethane  | 58         |           | 50-200              |
| Chlorobenzene-d5    | 59         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

## SAMPLE RESULTS

Lab ID: L1732002-04  
 Client ID: 090717\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/13/17 23:44  
 Analyst: RY

Date Collected: 09/07/17 15:28  
 Date Received: 09/11/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 2.3 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 21  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 4.5 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND  |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 1.4 |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND  |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 58  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 54         |           | 50-200              |
| Bromochloromethane  | 59         |           | 50-200              |
| Chlorobenzene-d5    | 57         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

## SAMPLE RESULTS

Lab ID: L1732002-05  
 Client ID: 090717\_BSW  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/14/17 00:19  
 Analyst: RY

Date Collected: 09/07/17 13:35  
 Date Received: 09/11/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 2.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 53     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 53         |           | 50-200              |
| Bromochloromethane  | 58         |           | 50-200              |
| Chlorobenzene-d5    | 56         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

## SAMPLE RESULTS

Lab ID: L1732002-06  
 Client ID: 090717\_BNE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/14/17 00:54  
 Analyst: RY

Date Collected: 09/07/17 15:30  
 Date Received: 09/11/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 2.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 13     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 2.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 53         |           | 50-200              |
| Bromochloromethane  | 59         |           | 50-200              |
| Chlorobenzene-d5    | 58         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1732002

Project Number: 683-057

Report Date: 09/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 09/13/17 14:30  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1041287-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1732002

Report Date: 09/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1041287-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 100              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 105              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 101              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 102              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 115              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 117              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 115              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 119              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | <b>154</b>       | Q    | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 121              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 107              |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1732002

Report Date: 09/14/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1041287-5 QC Sample: L1731438-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | 0.83          | 0.82             | ug/m3 | 1   |      | 30         |
| Benzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 390           | 400              | ug/m3 | 3   |      | 30         |
| Toluene   | 2.2           | 2.1              | ug/m3 | 5   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 1.8           | 1.9              | ug/m3 | 5   |      | 30         |
| o-Xylene  | 0.92          | 1.0              | ug/m3 | 8   |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 280           | 260              | ug/m3 | 7   |      | 30         |
| C9-C10 Aromatics Total  | 27            | 27               | ug/m3 | 0   |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:09141713:20  
Lab Number: L1732002

Report Date: 09/14/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1732002-01 | 090717_2SE | 0121     | Flow 2     | 09/05/17      | 247749       |                   | -              | -                         | -                            | Pass                     | 4.5             | 3.1            | 37    |
| L1732002-01 | 090717_2SE | 178      | 2.7L Can   | 09/05/17      | 247749       | L1730445-01       | Pass           | -30.0                     | -20.6                        | -                        | -               | -              | -     |
| L1732002-02 | 090717_1C  | 0918     | Flow 4     | 09/05/17      | 247749       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1732002-02 | 090717_1C  | 223      | 2.7L Can   | 09/05/17      | 247749       | L1730136-01       | Pass           | -30.0                     | -7.2                         | -                        | -               | -              | -     |
| L1732002-03 | 090717_1SE | 0724     | Flow 4     | 09/05/17      | 247749       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1732002-03 | 090717_1SE | 456      | 2.7L Can   | 09/05/17      | 247749       | L1730889-01       | Pass           | -29.5                     | -6.7                         | -                        | -               | -              | -     |
| L1732002-04 | 090717_BC  | 0730     | Flow 4     | 09/05/17      | 247749       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1732002-04 | 090717_BC  | 504      | 2.7L Can   | 09/05/17      | 247749       | L1730889-01       | Pass           | -29.4                     | -6.4                         | -                        | -               | -              | -     |
| L1732002-05 | 090717_BSW | 0012     | Flow 5     | 09/05/17      | 247749       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.5            | 0     |
| L1732002-05 | 090717_BSW | 422      | 2.7L Can   | 09/05/17      | 247749       | L1730889-01       | Pass           | -29.5                     | -7.8                         | -                        | -               | -              | -     |
| L1732002-06 | 090717_BNE | 0785     | Flow 4     | 09/05/17      | 247749       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.0            | 11    |
| L1732002-06 | 090717_BNE | 1768     | 2.7L Can   | 09/05/17      | 247749       | L1730445-01       | Pass           | -30.0                     | -6.6                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01  
 Client ID: CAN 223 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/28/17 11:28  
 Analyst: MB

Date Collected: 08/25/17 16:00  
 Date Received: 08/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01  
 Client ID: CAN 223 SHELF 2  
 Sample Location:

Date Collected: 08/25/17 16:00  
 Date Received: 08/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01  
 Client ID: CAN 223 SHELF 2  
 Sample Location:

Date Collected: 08/25/17 16:00  
 Date Received: 08/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01  
 Client ID: CAN 223 SHELF 2  
 Sample Location:

Date Collected: 08/25/17 16:00  
 Date Received: 08/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01 Date Collected: 08/25/17 16:00  
 Client ID: CAN 223 SHELF 2 Date Received: 08/28/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 60-140              |
| Bromochloromethane  | 96         |           | 60-140              |
| chlorobenzene-d5    | 96         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01  
 Client ID: CAN 223 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/28/17 11:28  
 Analyst: MB

Date Collected: 08/25/17 16:00  
 Date Received: 08/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01  
 Client ID: CAN 223 SHELF 2  
 Sample Location:

Date Collected: 08/25/17 16:00  
 Date Received: 08/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730136  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730136-01 Date Collected: 08/25/17 16:00  
 Client ID: CAN 223 SHELF 2 Date Received: 08/28/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 94         |           | 60-140              |
| bromochloromethane  | 97         |           | 60-140              |
| chlorobenzene-d5    | 95         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730445  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730445-01  
 Client ID: CAN 178 SHELF 13  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/30/17 17:41  
 Analyst: RY

Date Collected: 08/29/17 16:00  
 Date Received: 08/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730445  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730445-01  
 Client ID: CAN 178 SHELF 13  
 Sample Location:

Date Collected: 08/29/17 16:00  
 Date Received: 08/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730445  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730445-01  
 Client ID: CAN 178 SHELF 13  
 Sample Location:

Date Collected: 08/29/17 16:00  
 Date Received: 08/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730445  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730445-01  
 Client ID: CAN 178 SHELF 13  
 Sample Location:

Date Collected: 08/29/17 16:00  
 Date Received: 08/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1730445**Project Number:** CANISTER QC BAT**Report Date:** 09/14/17**Air Canister Certification Results**

Lab ID: L1730445-01

Date Collected: 08/29/17 16:00

Client ID: CAN 178 SHELF 13

Date Received: 08/30/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 60-140              |
| Bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 84         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730445  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730445-01  
 Client ID: CAN 178 SHELF 13  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/30/17 17:41  
 Analyst: RY

Date Collected: 08/29/17 16:00  
 Date Received: 08/30/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730445  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730445-01  
 Client ID: CAN 178 SHELF 13  
 Sample Location:

Date Collected: 08/29/17 16:00  
 Date Received: 08/30/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730445  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730445-01  
 Client ID: CAN 178 SHELF 13  
 Sample Location:

Date Collected: 08/29/17 16:00  
 Date Received: 08/30/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 84         |           | 60-140              |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730889  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730889-01  
 Client ID: CAN 416 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/01/17 16:20  
 Analyst: RY

Date Collected: 08/31/17 16:00  
 Date Received: 09/01/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethyl Alcohol                            | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| iso-Propyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| tert-Butyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730889  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730889-01  
 Client ID: CAN 416 SHELF 3  
 Sample Location:

Date Collected: 08/31/17 16:00  
 Date Received: 09/01/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane    | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Isopropyl Ether                          | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Ethyl-Tert-Butyl-Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Tertiary-Amyl Methyl Ether               | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730889  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730889-01  
 Client ID: CAN 416 SHELF 3  
 Sample Location:

Date Collected: 08/31/17 16:00  
 Date Received: 09/01/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl Acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane (C9)                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| o-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730889  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730889-01  
 Client ID: CAN 416 SHELF 3  
 Sample Location:

Date Collected: 08/31/17 16:00  
 Date Received: 09/01/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| p-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane (C10)                             | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane (C12)                           | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730889  
**Report Date:** 09/14/17

### Air Canister Certification Results

|                  |                 |                 |                |
|------------------|-----------------|-----------------|----------------|
| Lab ID:          | L1730889-01     | Date Collected: | 08/31/17 16:00 |
| Client ID:       | CAN 416 SHELF 3 | Date Received:  | 09/01/17       |
| Sample Location: |                 | Field Prep:     | Not Specified  |

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 71         |           | 60-140              |
| Bromochloromethane  | 79         |           | 60-140              |
| chlorobenzene-d5    | 73         |           | 60-140              |



Project Name:

Lab Number: L1730889

Project Number: CANISTER QC BAT

Report Date: 09/14/17

## Air Canister Certification Results

Lab ID: L1730889-01  
 Client ID: CAN 416 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/01/17 16:20  
 Analyst: RY

Date Collected: 08/31/17 16:00  
 Date Received: 09/01/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Propylene                                       | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane          | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol                                   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide                                   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                                 | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                                | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane           | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                                   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730889  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730889-01  
 Client ID: CAN 416 SHELF 3  
 Sample Location:

Date Collected: 08/31/17 16:00  
 Date Received: 09/01/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate                                   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran                                 | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane                                     | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane                                  | 0.013   | 0.200 | --  | 0.092   | 1.42  | --  | J         | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane                          | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone                                      | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1730889  
**Report Date:** 09/14/17

### Air Canister Certification Results

Lab ID: L1730889-01  
 Client ID: CAN 416 SHELF 3  
 Sample Location:

Date Collected: 08/31/17 16:00  
 Date Received: 09/01/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane                          | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                                    | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | 0.013   | 0.050 | --  | 0.097   | 0.371 | --  | J         | 1               |
| Naphthalene                                     | 0.013   | 0.050 | --  | 0.068   | 0.262 | --  | J         | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1730136**Project Number:** CANISTER QC BAT**Report Date:** 09/14/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1730136-01  
**Client ID:** CAN 223 SHELF 2  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 08/28/17 11:28  
**Analyst:** MB

**Date Collected:** 08/25/17 16:00  
**Date Received:** 08/28/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1730445**Project Number:** CANISTER QC BAT**Report Date:** 09/14/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1730445-01  
**Client ID:** CAN 178 SHELF 13  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 08/30/17 17:41  
**Analyst:** RY

**Date Collected:** 08/29/17 16:00  
**Date Received:** 08/30/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** Not Specified**Lab Number:** L1730889**Project Number:** CANISTER QC BAT**Report Date:** 09/14/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1730889-01  
**Client ID:** CAN 416 SHELF 3  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 09/01/17 16:20  
**Analyst:** RY

**Date Collected:** 08/31/17 16:00  
**Date Received:** 09/01/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|-------------------------|
| L1732002-01A        | Canister - 2.7 Liter  | N/A           | N/A               | N/A             |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1732002-02A        | Canister - 2.7 Liter  | N/A           | N/A               | N/A             |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1732002-03A        | Canister - 2.7 Liter  | N/A           | N/A               | N/A             |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1732002-04A        | Canister - 2.7 Liter  | N/A           | N/A               | N/A             |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1732002-05A        | Canister - 2.7 Liter  | N/A           | N/A               | N/A             |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1732002-06A        | Canister - 2.7 Liter  | N/A           | N/A               | N/A             |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1732002  
**Report Date:** 09/14/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1732002  
**Report Date:** 09/14/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1732002  
**Report Date:** 09/14/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

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The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L1732002



# AIR ANALYSIS

## CHAIN OF CUSTODY

PAGE OF

### Project Information

Project Name: Skykomish HWF

Project Location: Skykomish, Washington

Project #: 683-057

Project Manager: Andrew Vining

ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Date Due: Time:

Date Rec'd in Lab: 9/11/17

ALPHA Job #:

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting

Address: 975 5<sup>th</sup> Avenue Northwest

Issaquah, Washington 98027

Phone: 425-295-0800

Fax: 425-295-0850

Email: avining@farallonconsulting.com

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs   | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |                          |  |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--|--------------------------|--|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |  |                          |  |
| 206-01             | 090717_2SE | 9/7/17     | 727        | 1527     | 28.90       | 19.35     | AA             | MB               | 2.7      | 178    | 0121               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>               | <input type="checkbox"/> |  |
| -02                | 090717_1C  | ↓          | 725        | 1525     | 29.01       | 5.75      | AA             | MB               | 2.7      | 223    | 0918               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>               | <input type="checkbox"/> |  |
| -03                | 090717_1SE | ↓          | 726        | 1526     | 29.02       | 5.24      | AA             | MB               | 2.7      | 456    | 0724               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>               | <input type="checkbox"/> |  |
| -04                | 090717_BC  | ↓          | 728        | 1528     | 28.83       | 5.09      | AA             | MB               | 2.7      | 504    | 0730               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>               | <input type="checkbox"/> |  |
| -05                | 090717_BSW | ↓          | 729        | 1335     | 29.04       | 6.27      | AA             | MB               | 2.7      | 422    | 0012               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>               | <input type="checkbox"/> |  |
| -06                | 090717_BNE | ↓          | 730        | 1530     | 29.93       | 5.70      | AA             | MB               | 2.7      | 1768   | 0785               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>               | <input type="checkbox"/> |  |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

| Relinquished By | Date/Time | Received By:      | Date/Time     |
|-----------------|-----------|-------------------|---------------|
| USPS            |           | USPS<br>Beth B... | 9/11/17 12:51 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1733024  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 09/21/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733024  
**Report Date:** 09/21/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1733024-01                | 091417_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 09/14/17 15:47                  | 09/18/17            |
| L1733024-02                | 091417_1C        | AIR           | SKYKOMISH, WASHINGTON      | 09/14/17 15:45                  | 09/18/17            |
| L1733024-03                | 091417_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 09/14/17 15:46                  | 09/18/17            |
| L1733024-04                | 091417_BC        | AIR           | SKYKOMISH, WASHINGTON      | 09/14/17 15:49                  | 09/18/17            |
| L1733024-05                | 091417_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 09/14/17 15:50                  | 09/18/17            |
| L1733024-06                | 091417_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 09/14/17 15:48                  | 09/18/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733024  
**Report Date:** 09/21/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733024  
**Report Date:** 09/21/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on September 12, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1733024-01, -02, -03, -04, and -06: Alpha-Pinene, D-Limonene, and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1733024-01, -02: Acetone, Isopropyl Alcohol, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1733024-03: Acetone, Isopropyl Alcohol, multiple siloxanes, Pentanal, Hexanal, and Tetrachloroethene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1733024-04: Acetone, Isopropyl Alcohol, multiple siloxanes, and Hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1733024-05: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1733024-05 and -06: Acetone, Isopropyl Alcohol, multiple siloxanes, Pentanal, and Hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 09/21/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1733024**Project Number:** 683-057**Report Date:** 09/21/17**SAMPLE RESULTS**

**Lab ID:** L1733024-01  
**Client ID:** 091417\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/20/17 21:57  
**Analyst:** RY

**Date Collected:** 09/14/17 15:47  
**Date Received:** 09/18/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.397   | 0.100 | --  | 1.27    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1733024**Project Number:** 683-057**Report Date:** 09/21/17**SAMPLE RESULTS**

Lab ID: L1733024-02  
 Client ID: 091417\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/20/17 22:30  
 Analyst: RY

Date Collected: 09/14/17 15:45  
 Date Received: 09/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.243   | 0.100 | --  | 0.776   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 73         |           | 60-140              |
| bromochloromethane  | 83         |           | 60-140              |
| chlorobenzene-d5    | 81         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1733024**Project Number:** 683-057**Report Date:** 09/21/17**SAMPLE RESULTS**

**Lab ID:** L1733024-03  
**Client ID:** 091417\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/20/17 23:03  
**Analyst:** RY

**Date Collected:** 09/14/17 15:46  
**Date Received:** 09/18/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.323   | 0.100 | --  | 1.03    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1733024**Project Number:** 683-057**Report Date:** 09/21/17**SAMPLE RESULTS**

**Lab ID:** L1733024-04  
**Client ID:** 091417\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/21/17 00:08  
**Analyst:** RY

**Date Collected:** 09/14/17 15:49  
**Date Received:** 09/18/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.235   | 0.100 | --  | 0.751   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 77         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1733024**Project Number:** 683-057**Report Date:** 09/21/17**SAMPLE RESULTS**

Lab ID: L1733024-05  
 Client ID: 091417\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/21/17 00:41  
 Analyst: RY

Date Collected: 09/14/17 15:50  
 Date Received: 09/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.169   | 0.100 | --  | 0.540   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.067   | 0.050 | --  | 0.351   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1733024**Project Number:** 683-057**Report Date:** 09/21/17**SAMPLE RESULTS**

**Lab ID:** L1733024-06  
**Client ID:** 091417\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/21/17 01:13  
**Analyst:** RY

**Date Collected:** 09/14/17 15:48  
**Date Received:** 09/18/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.023   | 0.020 | --  | 0.051   | 0.044 | --  |           | 1               |
| Benzene   | 0.246   | 0.100 | --  | 0.786   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 73         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/20/17 15:07

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1043790-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/20/17 15:07

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1043790-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/20/17 15:07

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1043790-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/20/17 15:07

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1043790-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1043790-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1043790-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1043790-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 84               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF

**Project Number:** 683-057

**Lab Number:** L1733024

**Report Date:** 09/21/17

| Parameter  | <i>LCS</i><br>%Recovery | <i>Qual</i> | <i>LCSD</i><br>%Recovery | <i>Qual</i> | <i>%Recovery</i><br>Limits | <i>RPD</i> | <i>Qual</i> | <i>RPD</i><br>Limits |
|--|-------------------------|-------------|--------------------------|-------------|----------------------------|------------|-------------|----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1043790-3 |                         |             |                          |             |                            |            |             |                      |
| p-Isopropyltoluene   | 75                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2-Dichlorobenzene  | 87                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| n-Butylbenzene   | 90                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,4-Trichlorobenzene   | 92                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Naphthalene  | 89                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,3-Trichlorobenzene   | 85                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Hexachlorobutadiene  | 85                      |             | -                        |             | 70-130                     | -          |             | 25                   |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733024

Report Date: 09/21/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1043790-5 QC Sample: L1733031-02 Client ID: DUP Sample |               |                  |       |     |      |            |
| Vinyl chloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,2-Dichloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1-Trichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon tetrachloride  | 0.096         | 0.091            | ppbV  | 5   |      | 25         |
| Trichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Tetrachloroethene   | 0.044         | 0.042            | ppbV  | 5   |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

## SAMPLE RESULTS

Lab ID: L1733024-01  
 Client ID: 091417\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/20/17 21:57  
 Analyst: RY

Date Collected: 09/14/17 15:47  
 Date Received: 09/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.5    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 76     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 9.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.1    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 85         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

## SAMPLE RESULTS

Lab ID: L1733024-02  
 Client ID: 091417\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/20/17 22:30  
 Analyst: RY

Date Collected: 09/14/17 15:45  
 Date Received: 09/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.87 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 38   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 4.6  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.2  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 74         |           | 50-200              |
| Bromochloromethane  | 83         |           | 50-200              |
| Chlorobenzene-d5    | 79         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

**SAMPLE RESULTS**

Lab ID: L1733024-03  
 Client ID: 091417\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/20/17 23:03  
 Analyst: RY

Date Collected: 09/14/17 15:46  
 Date Received: 09/18/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 53     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 8.7    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 50     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 78         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

## SAMPLE RESULTS

Lab ID: L1733024-04  
 Client ID: 091417\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/21/17 00:08  
 Analyst: RY

Date Collected: 09/14/17 15:49  
 Date Received: 09/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.85   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 36     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.9    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.4    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 76         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

## SAMPLE RESULTS

Lab ID: L1733024-05  
 Client ID: 091417\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/21/17 00:41  
 Analyst: RY

Date Collected: 09/14/17 15:50  
 Date Received: 09/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND   |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 42   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 5.1  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 1.9  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 3800 |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | 14   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 76         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1733024

Project Number: 683-057

Report Date: 09/21/17

## SAMPLE RESULTS

Lab ID: L1733024-06  
 Client ID: 091417\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/21/17 01:13  
 Analyst: RY

Date Collected: 09/14/17 15:48  
 Date Received: 09/18/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.89 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 44   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 4.3  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.0  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 75         |           | 50-200              |
| Bromochloromethane  | 83         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733024  
**Report Date:** 09/21/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 09/20/17 14:34  
Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1043791-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733024

Report Date: 09/21/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1043791-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 126              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 108              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 114              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 119              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 100              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 102              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 101              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 104              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 114              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 114              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 86               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733024

Report Date: 09/21/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1043791-5 QC Sample: L1733024-03 Client ID: 091417_1SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.1           | 1.2              | ug/m3 | 9   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 53            | 58               | ug/m3 | 9   |      | 30         |
| Toluene   | 8.7           | 9.2              | ug/m3 | 6   |      | 30         |
| Ethylbenzene  | ND            | 0.90             | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 3.1           | 3.3              | ug/m3 | 6   |      | 30         |
| o-Xylene  | 1.0           | 1.0              | ug/m3 | 0   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 50            | 52               | ug/m3 | 4   |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Project Number: 683-057

Serial\_No:09211716:45  
Lab Number: L1733024

Report Date: 09/21/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1733024-01 | 091417_2SE | 0488     | Flow 5     | 09/12/17      | 247750       |                   | -              | -                         | -                            | Pass                     | 4.4             | 3.9            | -     |
| L1733024-01 | 091417_2SE | 2012     | 2.7L Can   | 09/12/17      | 247750       | L1731397-02       | Pass           | -30.0                     | -5.6                         | -                        | -               | -              | -     |
| L1733024-02 | 091417_1C  | 0354     | Flow 5     | 09/12/17      | 247750       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1733024-02 | 091417_1C  | 2013     | 2.7L Can   | 09/12/17      | 247750       | L1731397-02       | Pass           | -29.9                     | -7.5                         | -                        | -               | -              | -     |
| L1733024-03 | 091417_1SE | 0370     | Flow 5     | 09/12/17      | 247750       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.4            | 0     |
| L1733024-03 | 091417_1SE | 529      | 2.7L Can   | 09/12/17      | 247750       | L1731397-01       | Pass           | -30.0                     | -7.1                         | -                        | -               | -              | -     |
| L1733024-04 | 091417_BC  | 0447     | Flow 5     | 09/12/17      | 247750       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.2            | 7     |
| L1733024-04 | 091417_BC  | 526      | 2.7L Can   | 09/12/17      | 247750       | L1731397-01       | Pass           | -30.0                     | -8.4                         | -                        | -               | -              | -     |
| L1733024-05 | 091417_BSW | 0097     | Flow 5     | 09/12/17      | 247750       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.3            | 5     |
| L1733024-05 | 091417_BSW | 535      | 2.7L Can   | 09/12/17      | 247750       | L1731397-01       | Pass           | -30.0                     | -6.0                         | -                        | -               | -              | -     |
| L1733024-06 | 091417_BNE | 0842     | Flow 5     | 09/12/17      | 247750       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1733024-06 | 091417_BNE | 461      | 2.7L Can   | 09/12/17      | 247750       | L1731397-01       | Pass           | -29.5                     | -7.1                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-01  
 Client ID: CAN 362 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/07/17 17:44  
 Analyst: MB

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-01  
 Client ID: CAN 362 SHELF 3  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-01  
 Client ID: CAN 362 SHELF 3  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-01  
 Client ID: CAN 362 SHELF 3  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

|                  |                 |                 |                |
|------------------|-----------------|-----------------|----------------|
| Lab ID:          | L1731397-01     | Date Collected: | 09/06/17 16:00 |
| Client ID:       | CAN 362 SHELF 3 | Date Received:  | 09/07/17       |
| Sample Location: |                 | Field Prep:     | Not Specified  |

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 93         |           | 60-140              |
| Bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-01  
 Client ID: CAN 362 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/07/17 17:44  
 Analyst: MB

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-01  
 Client ID: CAN 362 SHELF 3  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1731397**Project Number:** CANISTER QC BAT**Report Date:** 09/21/17**Air Canister Certification Results**

Lab ID: L1731397-01

Date Collected: 09/06/17 16:00

Client ID: CAN 362 SHELF 3

Date Received: 09/07/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 93         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/07/17 18:18  
 Analyst: MB

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| <b>Volatiles Organics in Air - Mansfield Lab</b> |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                                  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                                  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                                  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                                  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                              | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                              | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                                 | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                               | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                              | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                                   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane                      | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane   | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane   | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                           | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                                      | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                           | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                              | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|   | Results | Qualifier | Units | RDL | Dilution Factor |
|---|---------|-----------|-------|-----|-----------------|
| <b>Tentatively Identified Compounds</b> |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1731397**Project Number:** CANISTER QC BAT**Report Date:** 09/21/17**Air Canister Certification Results**

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 60-140              |
| Bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/07/17 18:18  
 Analyst: MB

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731397  
**Report Date:** 09/21/17

### Air Canister Certification Results

Lab ID: L1731397-02  
 Client ID: CAN 135 SHELF 4  
 Sample Location:

Date Collected: 09/06/17 16:00  
 Date Received: 09/07/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1731397**Project Number:** CANISTER QC BAT**Report Date:** 09/21/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1731397-01  
**Client ID:** CAN 362 SHELF 3  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 09/07/17 17:44  
**Analyst:** MB

**Date Collected:** 09/06/17 16:00  
**Date Received:** 09/07/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1731397**Project Number:** CANISTER QC BAT**Report Date:** 09/21/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1731397-02  
**Client ID:** CAN 135 SHELF 4  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 09/07/17 18:18  
**Analyst:** MB

**Date Collected:** 09/06/17 16:00  
**Date Received:** 09/07/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF**Lab Number:** L1733024**Project Number:** 683-057**Report Date:** 09/21/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                      Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1733024-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1733024-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1733024-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1733024-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1733024-05A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1733024-06A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733024  
**Report Date:** 09/21/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733024  
**Report Date:** 09/21/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733024  
**Report Date:** 09/21/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

Date Rec'd in Lab: 9/18/17 ALPHA Job #: 4733

**Report/Data Deliverables Information**  
 FAX  EMAIL  Same as Client info  PO  
 ADEx  Add'l Deliverables

**Regulatory Requirements/Report Limits**

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |
|           |         |                        |

### Client Information

Client: Farallon Consulting  
 Address: 975 5th Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining  
 ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs   | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comment<br>(i.e. PID) |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|---------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |                                       |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                       |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                       |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                       |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                       |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                       |

Phone: 425-295-0800

Fax: 425-295-0850

Email: avining@farallonconsulting.com

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comment (i.e. PID) |                          |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|------------------------------------|--------------------------|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                                    |                          |
| 33024.01           | 091417_2SE | 9/14/17    | 747        | 1547     | 28.17       | 4.74      | AA             | MB               | 2.7      | 2012   | 0488               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>           | <input type="checkbox"/> |
| 02                 | 091417_1C  |            | 745        | 1545     | 28.74       | 6.13      | AA             | MB               | 2.7      | 2013   | 0354               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>           | <input type="checkbox"/> |
| 03                 | 091417_1SE |            | 746        | 1546     | 29.29       | 5.85      | AA             | MB               | 2.7      | 529    | 0370               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>           | <input type="checkbox"/> |
| 04                 | 091417_BC  |            | 749        | 1549     | 29.09       | 6.98      | AA             | MB               | 2.7      | 526    | 0447               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>           | <input type="checkbox"/> |
| 05                 | 091417_BSW |            | 750        | 1550     | 28.87       | 4.65      | AA             | MB               | 2.7      | 535    | 0497               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>           | <input type="checkbox"/> |
| 06                 | 091417_BNE | ∨          | 748        | 1548     | 28.73       | 5.76      | AA             | MB               | 2.7      | 461    | 0482               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>           | <input type="checkbox"/> |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev: 25-Sept-15

| Relinquished By             | Date/Time     | Received By:                    | Date/Time     |
|-----------------------------|---------------|---------------------------------|---------------|
| <i>[Signature]</i><br>FedEx | 9/14/17 13:55 | FedEx<br><i>[Signature]</i> AAC | 9/18/17 10:55 |

Please print legibly and (c) Samples collected in an around time not start until ambiguities resolved. All submitted are to Alpha's P: Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1734187  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 09/27/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1734187  
**Report Date:** 09/27/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1734187-01                | 092117_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 09/21/17 16:05                  | 09/25/17            |
| L1734187-02                | 092117_1C        | AIR           | SKYKOMISH, WASHINGTON      | 09/21/17 16:00                  | 09/25/17            |
| L1734187-03                | 092117_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 09/21/17 16:01                  | 09/25/17            |
| L1734187-04                | 092117_BC        | AIR           | SKYKOMISH, WASHINGTON      | 09/21/17 16:03                  | 09/25/17            |
| L1734187-05                | 092117_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 09/21/17 16:02                  | 09/25/17            |
| L1734187-06                | 092117_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 09/21/17 16:04                  | 09/25/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1734187  
**Report Date:** 09/27/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1734187  
**Report Date:** 09/27/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on September 1 and 19, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1734187-01, -03, -04, -05, and -06: Acetone, Isopropyl Alcohol, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1734187-01, -03, -04, -05, and -06: Alpha-Pinene, multiple siloxanes and D-Limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1734187-02: Acetone, Isopropyl Alcohol, Hexanal, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1734187-02: Alpha-Pinene, multiple siloxanes and D-Limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

The WG1045777-3 LCS recovery for 1,3-butadiene (132%) is above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of this analyte.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 09/27/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1734187**Project Number:** 683-057**Report Date:** 09/27/17**SAMPLE RESULTS**

**Lab ID:** L1734187-01  
**Client ID:** 092117\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/26/17 17:03  
**Analyst:** RY

**Date Collected:** 09/21/17 16:05  
**Date Received:** 09/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.249   | 0.100 | --  | 0.795   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1734187**Project Number:** 683-057**Report Date:** 09/27/17**SAMPLE RESULTS**

**Lab ID:** L1734187-02  
**Client ID:** 092117\_1C  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/26/17 18:08  
**Analyst:** RY

**Date Collected:** 09/21/17 16:00  
**Date Received:** 09/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.271   | 0.100 | --  | 0.866   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1734187**Project Number:** 683-057**Report Date:** 09/27/17**SAMPLE RESULTS**

**Lab ID:** L1734187-03  
**Client ID:** 092117\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/26/17 18:41  
**Analyst:** RY

**Date Collected:** 09/21/17 16:01  
**Date Received:** 09/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.251   | 0.100 | --  | 0.802   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1734187**Project Number:** 683-057**Report Date:** 09/27/17**SAMPLE RESULTS**

**Lab ID:** L1734187-04  
**Client ID:** 092117\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/26/17 19:14  
**Analyst:** RY

**Date Collected:** 09/21/17 16:03  
**Date Received:** 09/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.235   | 0.100 | --  | 0.751   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 81         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1734187**Project Number:** 683-057**Report Date:** 09/27/17**SAMPLE RESULTS**

**Lab ID:** L1734187-05  
**Client ID:** 092117\_BSW  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/26/17 19:47  
**Analyst:** RY

**Date Collected:** 09/21/17 16:02  
**Date Received:** 09/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.224   | 0.100 | --  | 0.716   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 86         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1734187**Project Number:** 683-057**Report Date:** 09/27/17**SAMPLE RESULTS**

**Lab ID:** L1734187-06  
**Client ID:** 092117\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/26/17 20:19  
**Analyst:** RY

**Date Collected:** 09/21/17 16:04  
**Date Received:** 09/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.218   | 0.100 | --  | 0.696   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/26/17 13:51

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1046091-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/26/17 13:51

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1046091-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/26/17 13:51

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1046091-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/26/17 13:51

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1046091-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1046091-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1046091-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1046091-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 82               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1046091-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 75               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 82               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1734187

Report Date: 09/27/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1046091-5 QC Sample: L1734187-01 Client ID: 092117_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | 0.249         | 0.247            | ppbV  | 1   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

## SAMPLE RESULTS

Lab ID: L1734187-01  
 Client ID: 092117\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/26/17 17:03  
 Analyst: RY

Date Collected: 09/21/17 16:05  
 Date Received: 09/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.91 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 150  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 5.6  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.8  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 85         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

## SAMPLE RESULTS

Lab ID: L1734187-02  
 Client ID: 092117\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/26/17 18:08  
 Analyst: RY

Date Collected: 09/21/17 16:00  
 Date Received: 09/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.99 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 120  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 6.1  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.9  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 0.96 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 79         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 78         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

## SAMPLE RESULTS

Lab ID: L1734187-03  
 Client ID: 092117\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/26/17 18:41  
 Analyst: RY

Date Collected: 09/21/17 16:01  
 Date Received: 09/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

| Parameter                   | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|-----------------------------|--------|-----------|-------|------|-----|-----------------|
| 1,3-Butadiene               | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether     | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                     | 0.91   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted  | 610    |           | ug/m3 | 10   | --  | 1               |
| Toluene                     | 5.6    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                  | 2.6    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                    | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                 | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total      | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 84         |           | 50-200              |
| Chlorobenzene-d5    | 79         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

## SAMPLE RESULTS

Lab ID: L1734187-04  
 Client ID: 092117\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/26/17 19:14  
 Analyst: RY

Date Collected: 09/21/17 16:03  
 Date Received: 09/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

| Parameter                   | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|-----------------------------|--------|-----------|-------|------|-----|-----------------|
| 1,3-Butadiene               | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether     | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                     | 0.89   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted  | 150    |           | ug/m3 | 10   | --  | 1               |
| Toluene                     | 5.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                  | 2.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                    | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                 | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total      | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 79         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 80         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

## SAMPLE RESULTS

Lab ID: L1734187-05  
 Client ID: 092117\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/26/17 19:47  
 Analyst: RY

Date Collected: 09/21/17 16:02  
 Date Received: 09/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.83   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 180    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 80         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1734187

Project Number: 683-057

Report Date: 09/27/17

## SAMPLE RESULTS

Lab ID: L1734187-06  
 Client ID: 092117\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/26/17 20:19  
 Analyst: RY

Date Collected: 09/21/17 16:04  
 Date Received: 09/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.80 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 120  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 4.1  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.1  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 76         |           | 50-200              |
| Bromochloromethane  | 84         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1734187  
**Report Date:** 09/27/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 09/26/17 13:51  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1045777-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1734187

Report Date: 09/27/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1045777-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 132              | Q    | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 106              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 111              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 120              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 95               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 98               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 96               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 102              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 109              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 112              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 82               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1734187

Report Date: 09/27/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1045777-5 QC Sample: L1734187-01 Client ID: 092117_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 0.91          | 0.89             | ug/m3 | 2   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 150           | 150              | ug/m3 | 0   |      | 30         |
| Toluene   | 5.6           | 5.9              | ug/m3 | 5   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 2.8           | 3.0              | ug/m3 | 7   |      | 30         |
| o-Xylene  | ND            | 0.92             | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Project Number: 683-057

Serial\_No:09271715:28  
Lab Number: L1734187

Report Date: 09/27/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1734187-01 | 092117_2SE | 0046     | Flow 5     | 09/01/17      | 248496       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.5            | 20    |
| L1734187-01 | 092117_2SE | 326      | 2.7L Can   | 09/01/17      | 248496       | L1729348-01       | Pass           | -30.0                     | -2.6                         | -                        | -               | -              | -     |
| L1734187-02 | 092117_1C  | 0204     | Flow 5     | 09/19/17      | 247751       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1734187-02 | 092117_1C  | 2356     | 2.7L CAN   | 09/19/17      | 247751       | L1732960-02       | Pass           | -30.7                     | -4.7                         | -                        | -               | -              | -     |
| L1734187-03 | 092117_1SE | 0283     | Flow 5     | 09/19/17      | 247751       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1734187-03 | 092117_1SE | 2229     | 2.7L Can   | 09/19/17      | 247751       | L1732960-02       | Pass           | -30.7                     | -4.2                         | -                        | -               | -              | -     |
| L1734187-04 | 092117_BC  | 0963     | Flow 5     | 09/19/17      | 247751       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1734187-04 | 092117_BC  | 2310     | 2.7L Can   | 09/19/17      | 247751       | L1732960-02       | Pass           | -29.6                     | -4.5                         | -                        | -               | -              | -     |
| L1734187-05 | 092117_BSW | 0920     | Flow 5     | 09/19/17      | 247751       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.1            | 13    |
| L1734187-05 | 092117_BSW | 129      | 2.7L Can   | 09/19/17      | 247751       | L1732960-02       | Pass           | -30.5                     | -5.0                         | -                        | -               | -              | -     |
| L1734187-06 | 092117_BNE | 0233     | Flow 5     | 09/19/17      | 247751       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1734187-06 | 092117_BNE | 2017     | 2.7L Can   | 09/19/17      | 247751       | L1732960-02       | Pass           | -30.3                     | -6.4                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729348  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1729348-01  
 Client ID: CAN 326 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/22/17 17:27  
 Analyst: MB

Date Collected: 08/21/17 16:00  
 Date Received: 08/22/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729348  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1729348-01 Date Collected: 08/21/17 16:00  
 Client ID: CAN 326 SHELF 8 Date Received: 08/22/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729348  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1729348-01  
 Client ID: CAN 326 SHELF 8  
 Sample Location:

Date Collected: 08/21/17 16:00  
 Date Received: 08/22/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729348  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1729348-01  
 Client ID: CAN 326 SHELF 8  
 Sample Location:

Date Collected: 08/21/17 16:00  
 Date Received: 08/22/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1729348**Project Number:** CANISTER QC BAT**Report Date:** 09/27/17**Air Canister Certification Results**

Lab ID: L1729348-01

Date Collected: 08/21/17 16:00

Client ID: CAN 326 SHELF 8

Date Received: 08/22/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 90         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729348  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1729348-01  
 Client ID: CAN 326 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 08/22/17 17:27  
 Analyst: MB

Date Collected: 08/21/17 16:00  
 Date Received: 08/22/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729348  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1729348-01  
 Client ID: CAN 326 SHELF 8  
 Sample Location:

Date Collected: 08/21/17 16:00  
 Date Received: 08/22/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1729348  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1729348-01 Date Collected: 08/21/17 16:00  
 Client ID: CAN 326 SHELF 8 Date Received: 08/22/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 94         |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |

**Project Name:**  
**Project Number:** Not Specified

**Lab Number:** L1732960  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1732960-02  
 Client ID: CAN 282 SHELF 14  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/16/17 18:37  
 Analyst: MB

Date Collected: 09/15/17 17:00  
 Date Received: 09/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethyl Alcohol                            | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| iso-Propyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| tert-Butyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

Project Name:

Lab Number: L1732960

Project Number: Not Specified

Report Date: 09/27/17

## Air Canister Certification Results

Lab ID: L1732960-02

Date Collected: 09/15/17 17:00

Client ID: CAN 282 SHELF 14

Date Received: 09/16/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane    | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Isopropyl Ether                          | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Ethyl-Tert-Butyl-Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Tertiary-Amyl Methyl Ether               | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



Project Name:

Lab Number: L1732960

Project Number: Not Specified

Report Date: 09/27/17

## Air Canister Certification Results

Lab ID: L1732960-02  
 Client ID: CAN 282 SHELF 14  
 Sample Location:

Date Collected: 09/15/17 17:00  
 Date Received: 09/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl Acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane (C9)                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



Project Name:

Lab Number: L1732960

Project Number: Not Specified

Report Date: 09/27/17

## Air Canister Certification Results

Lab ID: L1732960-02  
 Client ID: CAN 282 SHELF 14  
 Sample Location:

Date Collected: 09/15/17 17:00  
 Date Received: 09/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| o-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| p-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane (C10)                             | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane (C12)                           | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:**  
**Project Number:** Not Specified

**Lab Number:** L1732960  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1732960-02  
 Client ID: CAN 282 SHELF 14  
 Sample Location:

Date Collected: 09/15/17 17:00  
 Date Received: 09/16/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 90         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |



Lab Number: L1732960

Report Date: 09/27/17

Project Name:

Project Number: Not Specified

## Air Canister Certification Results

Lab ID: L1732960-02  
 Client ID: CAN 282 SHELF 14  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/16/17 18:37  
 Analyst: MB

Date Collected: 09/15/17 17:00  
 Date Received: 09/16/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Propylene                                       | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane          | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol                                   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide                                   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                                 | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                                | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane           | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                                   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name:

Lab Number: L1732960

Project Number: Not Specified

Report Date: 09/27/17

## Air Canister Certification Results

Lab ID: L1732960-02

Date Collected: 09/15/17 17:00

Client ID: CAN 282 SHELF 14

Date Received: 09/16/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate                                   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran                                 | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane                                     | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane                                  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane                          | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone                                      | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |



**Project Name:**  
**Project Number:** Not Specified

**Lab Number:** L1732960  
**Report Date:** 09/27/17

### Air Canister Certification Results

Lab ID: L1732960-02  
 Client ID: CAN 282 SHELF 14  
 Sample Location:

Date Collected: 09/15/17 17:00  
 Date Received: 09/16/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane                          | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                                    | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1729348**Project Number:** CANISTER QC BAT**Report Date:** 09/27/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1729348-01  
**Client ID:** CAN 326 SHELF 8  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 08/22/17 17:27  
**Analyst:** MB

**Date Collected:** 08/21/17 16:00  
**Date Received:** 08/22/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** Not Specified**Lab Number:** L1732960**Project Number:** Not Specified**Report Date:** 09/27/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1732960-02  
**Client ID:** CAN 282 SHELF 14  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 09/16/17 18:37  
**Analyst:** MB

**Date Collected:** 09/15/17 17:00  
**Date Received:** 09/16/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF**Lab Number:** L1734187**Project Number:** 683-057**Report Date:** 09/27/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                      Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| L1734187-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1734187-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1734187-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1734187-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1734187-05A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1734187-06A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1734187  
**Report Date:** 09/27/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1734187  
**Report Date:** 09/27/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1734187  
**Report Date:** 09/27/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE OF

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

Phone: 425-295-0800  
 Fax: 425-295-0850

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Email: avining@farallonconsulting.com

Date Due: Time:

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 9/25/17

ALPHA Job #: L17 34187

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

State/Fed Program Residential/Commercial

### Analysis

| TO-15                    | TO-15 SIM                           | APH                                 | Subtract non-petroleum HCs | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |
|--------------------------|-------------------------------------|-------------------------------------|----------------------------|--------------------------|--------------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID   | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |  |
|--------------------|-------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|-------------------------------------|--|
|                    |             | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                                     |  |
| 34187.01           | 092117_2SE  | 9/21/17    | 805        | 1605     | 29.07       | 2.03      | AA             | MB               | 2.7      | 326    | 0046               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| .02                | 092117_1C   | ↓          | 800        | 1600     | 28.20       | 3.58      | AA             | MB               | 2.7      | 2356   | 0209               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| .03                | 092117_1SE  |            | 801        | 1601     | 28.94       | 3.10      | AA             | MB               | 2.7      | 2229   | 0283               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| .04                | 092117_1BC  |            | 803        | 1603     | 28.05       | 4.66      | AA             | MB               | 2.7      | 2310   | 0963               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| .05                | 092117_1BSW |            | 802        | 1602     | 29.09       | 3.49      | AA             | MB               | 2.7      | 129    | 0920               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| .06                | 092117_1BNE |            | 804        | 1604     | 28.54       | 5.00      | AA             | MB               | 2.7      | 2017   | 0233               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev: 25-Sept-15

|                      |  |                |   |              |   |              |   |
|----------------------|--|----------------|---|--------------|---|--------------|---|
| Container Type       |  | -              | - | -            | - | -            | - |
| Relinquished By      |  | Date/Time      |   | Received By: |   | Date/Time    |   |
| <i>Andrew Vining</i> |  | 9-22-17 9:00am |   | <i>USPS</i>  |   | 9-22-17      |   |
| USPS                 |  |                |   | <i>USPS</i>  |   | 9/25/17 1323 |   |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1735266  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 10/05/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1735266  
**Report Date:** 10/05/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1735266-01                | 092817_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 09/28/17 16:29                  | 10/02/17            |
| L1735266-02                | 092817_1C        | AIR           | SKYKOMISH, WASHINGTON      | 09/28/17 16:27                  | 10/02/17            |
| L1735266-03                | 092817_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 09/28/17 16:26                  | 10/02/17            |
| L1735266-04                | 092817_BC        | AIR           | SKYKOMISH, WASHINGTON      | 09/28/17 16:20                  | 10/02/17            |
| L1735266-05                | 092817_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 09/28/17 16:25                  | 10/02/17            |
| L1735266-06                | 092817_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 09/28/17 16:26                  | 10/02/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1735266  
**Report Date:** 10/05/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1735266  
**Report Date:** 10/05/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on September 26, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1735266-01 through -06: Acetone, Isopropyl Alcohol, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1735266-01 through -06: Alpha-Pinene, D-Limonene, and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 10/05/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1735266**Project Number:** 683-057**Report Date:** 10/05/17**SAMPLE RESULTS**

**Lab ID:** L1735266-01  
**Client ID:** 092817\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/03/17 18:44  
**Analyst:** RY

**Date Collected:** 09/28/17 16:29  
**Date Received:** 10/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.228   | 0.100 | --  | 0.728   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 79         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1735266**Project Number:** 683-057**Report Date:** 10/05/17**SAMPLE RESULTS**

**Lab ID:** L1735266-02  
**Client ID:** 092817\_1C  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/03/17 19:54  
**Analyst:** RY

**Date Collected:** 09/28/17 16:27  
**Date Received:** 10/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.188   | 0.100 | --  | 0.601   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 81         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1735266**Project Number:** 683-057**Report Date:** 10/05/17**SAMPLE RESULTS**

**Lab ID:** L1735266-03  
**Client ID:** 092817\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/03/17 20:30  
**Analyst:** RY

**Date Collected:** 09/28/17 16:26  
**Date Received:** 10/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.259   | 0.100 | --  | 0.827   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1735266**Project Number:** 683-057**Report Date:** 10/05/17**SAMPLE RESULTS**

Lab ID: L1735266-04  
 Client ID: 092817\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/03/17 21:05  
 Analyst: RY

Date Collected: 09/28/17 16:20  
 Date Received: 10/02/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.191   | 0.100 | --  | 0.610   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 79         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1735266**Project Number:** 683-057**Report Date:** 10/05/17**SAMPLE RESULTS**

**Lab ID:** L1735266-05  
**Client ID:** 092817\_BSW  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/03/17 21:40  
**Analyst:** RY

**Date Collected:** 09/28/17 16:25  
**Date Received:** 10/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.193   | 0.100 | --  | 0.617   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1735266**Project Number:** 683-057**Report Date:** 10/05/17**SAMPLE RESULTS**

**Lab ID:** L1735266-06  
**Client ID:** 092817\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/03/17 22:15  
**Analyst:** RY

**Date Collected:** 09/28/17 16:26  
**Date Received:** 10/02/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.129   | 0.100 | --  | 0.412   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 77         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 79         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/03/17 14:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1048389-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/03/17 14:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1048389-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/03/17 14:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1048389-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/03/17 14:13

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1048389-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1048389-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 125              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 78               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1048389-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 78               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 129              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|-----------|------|-----------|------|---------------------|-----|------|---------------|
|  | %Recovery | Qual | %Recovery | Qual |                     |     |      |               |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1048389-3 |           |      |           |      |                     |     |      |               |
| Toluene  | 84        |      | -         |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 86        |      | -         |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 111       |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 96        |      | -         |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 100       |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 99        |      | -         |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 93        |      | -         |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 87        |      | -         |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 93        |      | -         |      | 70-130              | -   |      | 25            |
| Bromoform  | 115       |      | -         |      | 70-130              | -   |      | 25            |
| Styrene  | 86        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 98        |      | -         |      | 70-130              | -   |      | 25            |
| o-Xylene   | 93        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 90        |      | -         |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 87        |      | -         |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 85        |      | -         |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 96        |      | -         |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 100       |      | -         |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 102       |      | -         |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 91        |      | -         |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 104       |      | -         |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 101       |      | -         |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 88        |      | -         |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1735266

Report Date: 10/05/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1048389-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 118              |      | -                 |      | 70-130              | -   |      | 25            |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

## SAMPLE RESULTS

Lab ID: L1735266-01  
 Client ID: 092817\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/03/17 18:44  
 Analyst: RY

Date Collected: 09/28/17 16:29  
 Date Received: 10/02/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.93   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 22     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.95   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

## SAMPLE RESULTS

Lab ID: L1735266-02  
 Client ID: 092817\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/03/17 19:54  
 Analyst: RY

Date Collected: 09/28/17 16:27  
 Date Received: 10/02/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.79   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 16     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 85         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

## SAMPLE RESULTS

Lab ID: L1735266-03  
 Client ID: 092817\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/03/17 20:30  
 Analyst: RY

Date Collected: 09/28/17 16:26  
 Date Received: 10/02/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.97   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 30     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.99   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

## SAMPLE RESULTS

Lab ID: L1735266-04  
 Client ID: 092817\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/03/17 21:05  
 Analyst: RY

Date Collected: 09/28/17 16:20  
 Date Received: 10/02/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.80   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 13     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 79         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

## SAMPLE RESULTS

Lab ID: L1735266-05  
 Client ID: 092817\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/03/17 21:40  
 Analyst: RY

Date Collected: 09/28/17 16:25  
 Date Received: 10/02/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.74 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 15   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 4.0  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.0  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

**SAMPLE RESULTS**

Lab ID: L1735266-06  
 Client ID: 092817\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/03/17 22:15  
 Analyst: RY

Date Collected: 09/28/17 16:26  
 Date Received: 10/02/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 13     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 2.3    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 84         |           | 50-200              |
| Chlorobenzene-d5    | 85         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1735266  
**Report Date:** 10/05/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 10/03/17 13:38  
Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1048371-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1735266

Report Date: 10/05/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1048371-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 108              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 112              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 108              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 128              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 94               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 98               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 100              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 106              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 128              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 117              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 88               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1735266

Report Date: 10/05/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1048371-5 QC Sample: L1735045-02 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 27            | 25               | ug/m3 | 8   |      | 30         |
| Toluene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| o-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:10051710:55  
Lab Number: L1735266

Project Number: 683-057

Report Date: 10/05/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1735266-01 | 092817_2SE | 0766     | Flow 3     | 09/26/17      | 247752       |                   | -              | -                         | -                            | Pass                     | 4.2             | 5.3            | 23    |
| L1735266-01 | 092817_2SE | 184      | 2.7L Can   | 09/26/17      | 247752       | L1733117-02       | Pass           | -29.8                     | -8.3                         | -                        | -               | -              | -     |
| L1735266-02 | 092817_1C  | 0415     | Flow 5     | 09/26/17      | 247752       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1735266-02 | 092817_1C  | 544      | 2.7L Can   | 09/26/17      | 247752       | L1733117-02       | Pass           | -29.9                     | -6.8                         | -                        | -               | -              | -     |
| L1735266-03 | 092817_1SE | 0850     | Flow 5     | 09/26/17      | 247752       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.2            | 14    |
| L1735266-03 | 092817_1SE | 554      | 2.7L Can   | 09/26/17      | 247752       | L1733117-02       | Pass           | -29.8                     | -5.7                         | -                        | -               | -              | -     |
| L1735266-04 | 092817_BC  | 0129     | Flow 5     | 09/26/17      | 247752       |                   | -              | -                         | -                            | Pass                     | 4.2             | 4.8            | 13    |
| L1735266-04 | 092817_BC  | 1737     | 2.7L Can   | 09/26/17      | 247752       | L1733117-02       | Pass           | -29.9                     | -7.3                         | -                        | -               | -              | -     |
| L1735266-05 | 092817_BSW | 0498     | Flow 5     | 09/26/17      | 247752       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1735266-05 | 092817_BSW | 382      | 2.7L Can   | 09/26/17      | 247752       | L1733117-02       | Pass           | -29.6                     | -6.4                         | -                        | -               | -              | -     |
| L1735266-06 | 092817_BNE | 0828     | Flow 5     | 09/26/17      | 247752       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.9            | 11    |
| L1735266-06 | 092817_BNE | 202      | 2.7L Can   | 09/26/17      | 247752       | L1733117-01       | Pass           | -29.9                     | -8.5                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-01  
 Client ID: CAN 502 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/19/17 09:16  
 Analyst: MB

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-01  
 Client ID: CAN 502 SHELF 1  
 Sample Location:

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1733117

Project Number: CANISTER QC BAT

Report Date: 10/05/17

## Air Canister Certification Results

Lab ID: L1733117-01

Date Collected: 09/18/17 16:00

Client ID: CAN 502 SHELF 1

Date Received: 09/19/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-01  
 Client ID: CAN 502 SHELF 1  
 Sample Location:

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-01 Date Collected: 09/18/17 16:00  
 Client ID: CAN 502 SHELF 1 Date Received: 09/19/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-01  
 Client ID: CAN 502 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/19/17 09:16  
 Analyst: MB

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-01  
 Client ID: CAN 502 SHELF 1  
 Sample Location:

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1733117

Project Number: CANISTER QC BAT

Report Date: 10/05/17

## Air Canister Certification Results

Lab ID: L1733117-01

Date Collected: 09/18/17 16:00

Client ID: CAN 502 SHELF 1

Date Received: 09/19/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 94         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-02  
 Client ID: CAN 360 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/19/17 09:51  
 Analyst: MB

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-02  
 Client ID: CAN 360 SHELF 2  
 Sample Location:

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-02  
 Client ID: CAN 360 SHELF 2  
 Sample Location:

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-02  
 Client ID: CAN 360 SHELF 2  
 Sample Location:

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1733117**Project Number:** CANISTER QC BAT**Report Date:** 10/05/17**Air Canister Certification Results**

Lab ID: L1733117-02

Date Collected: 09/18/17 16:00

Client ID: CAN 360 SHELF 2

Date Received: 09/19/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 60-140              |
| Bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 81         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-02  
 Client ID: CAN 360 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/19/17 09:51  
 Analyst: MB

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1733117  
**Report Date:** 10/05/17

### Air Canister Certification Results

Lab ID: L1733117-02  
 Client ID: CAN 360 SHELF 2  
 Sample Location:

Date Collected: 09/18/17 16:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1733117

Project Number: CANISTER QC BAT

Report Date: 10/05/17

## Air Canister Certification Results

Lab ID: L1733117-02

Date Collected: 09/18/17 16:00

Client ID: CAN 360 SHELF 2

Date Received: 09/19/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 82         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1733117**Project Number:** CANISTER QC BAT**Report Date:** 10/05/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1733117-01  
**Client ID:** CAN 502 SHELF 1  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 09/19/17 16:09  
**Analyst:** RY

**Date Collected:** 09/18/17 16:00  
**Date Received:** 09/19/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1733117**Project Number:** CANISTER QC BAT**Report Date:** 10/05/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1733117-02  
**Client ID:** CAN 360 SHELF 2  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 09/19/17 16:42  
**Analyst:** RY

**Date Collected:** 09/18/17 16:00  
**Date Received:** 09/19/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

Serial\_No:10051710:55  
**Lab Number:** L1735266  
**Report Date:** 10/05/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

**Cooler**                      **Custody Seal**  
N/A                                      Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|-------------------------|
| L1735266-01A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1735266-02A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1735266-03A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1735266-04A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1735266-05A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1735266-06A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |

\*Values in parentheses indicate holding time in days



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1735266  
**Report Date:** 10/05/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1735266  
**Report Date:** 10/05/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1735266  
**Report Date:** 10/05/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1** Hg.

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE OF

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Phone: 425-295-0800  
 Fax: 425-295-0850

Email: avining@farallonconsulting.com

Date Due: Time:

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 10/2/17

ALPHA Job #: L1735266

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

State/Fed Program Residential/Commercial

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs | FIXED GASES | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |
|--------------------------|-------------------------------------|-----------------------------------|-------------|--------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>          |             |                                |  |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID    | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 |                          |                          | Sample Specific Comments (i.e. PID) |
|--------------------|--------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|-------------------------------------|
|                    |              | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                          |                          |                                     |
| 35266-01           | 042817_2SE   | 9/28/17    | 829        | 1629     | 29.08       | 6.39      | AA             | MB               | 2.7      | 184    | 0766               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
|                    | 02092817_1C  | 9/28/17    | 831        | 1627     | 29.12       | 7.84      | AA             | MB               | 2.7      | 544    | 0415               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
|                    | 03092817_1SE | 9/28/17    | 830        | 1626     | 29.41       | 4.08      | AA             | MB               | 2.7      | 551    | 0850               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
|                    | 04092817_BC  | 9/28/17    | 833        | 1620     | 29.38       | -5.42     | AA             | MB               | 2.7      | 1737   | 0129               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
|                    | 05092817_BSW | 9/28/17    | 832        | 1625     | 29.44       | 4.48      | AA             | MB               | 2.7      | 382    | 0498               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
|                    | 06092817_BNE | 9/28/17    | 832        | 1626     | 29.18       | -6.78     | AA             | MB               | 2.7      | 202    | 0828               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (1) Rev: 25-Sept-15

Container Type

- - - - -

| Relinquished By      | Date/Time     | Received By:   | Date/Time    |
|----------------------|---------------|----------------|--------------|
| <i>Andrew Vining</i> | 9/29/17 10:00 | USPS           |              |
| USPS                 |               | <i>Clayton</i> | 10/2/17 4:00 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1736548  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 10/12/17  |

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1736548-01                | 100517_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 10/05/17 15:35                  | 10/10/17            |
| L1736548-02                | 100517_1C        | AIR           | SKYKOMISH, WASHINGTON      | 10/05/17 15:33                  | 10/10/17            |
| L1736548-03                | 100517_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 10/05/17 15:34                  | 10/10/17            |
| L1736548-04                | 100517_BC        | AIR           | SKYKOMISH, WASHINGTON      | 10/05/17 14:55                  | 10/10/17            |
| L1736548-05                | 100517_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 10/05/17 15:31                  | 10/10/17            |
| L1736548-06                | 100517_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 10/05/17 15:32                  | 10/10/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on October 3, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1736548-01: Isopropyl alcohol, trimethylsilanol, 2-butanone, tetrahydrofuran, hexamethyldisiloxane, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1736548-01: Limonene, alpha-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1736548-02: Isopropyl alcohol, trimethylsilanol, 2-butanone, hexamethylcyclotrisiloxane and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1736548-02: Limonene, alpha-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1736548-03: Isopropyl alcohol, trimethylsilanol, butanal, hexanal and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1736548-03: Limonene, alpha-pinene, 1,4-dichlorobenzene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

### Case Narrative (continued)

of the C9-C12 range result since they are not petroleum hydrocarbons.

L1736548-04: Isopropyl alcohol, 1-propanol, trimethylsilanol, ethyl acetate, tetrahydrofuran, hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1736548-04: Limonene, alpha-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1736548-05: Isopropyl alcohol, 1-propanol, trimethylsilanol, 2-butanone, tetrahydrofuran, 4-methyl-2-pentanone, hexanal, butyl acetate, hexamethylcyclotrisiloxane, cyclohexanone, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1736548-05: Limonene, alpha-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1736548-06: Isopropyl alcohol, 1-propanol, trimethylsilanol, hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1736548-06: Limonene, alpha-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 10/12/17

**AIR**

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

### SAMPLE RESULTS

Lab ID: L1736548-01  
 Client ID: 100517\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/11/17 20:56  
 Analyst: MB

Date Collected: 10/05/17 15:35  
 Date Received: 10/10/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.354   | 0.100 | --  | 1.13    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1736548**Project Number:** 683-057**Report Date:** 10/12/17**SAMPLE RESULTS**

**Lab ID:** L1736548-02  
**Client ID:** 100517\_1C  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/11/17 21:30  
**Analyst:** MB

**Date Collected:** 10/05/17 15:33  
**Date Received:** 10/10/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.228   | 0.100 | --  | 0.728   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1736548**Project Number:** 683-057**Report Date:** 10/12/17**SAMPLE RESULTS**

**Lab ID:** L1736548-03  
**Client ID:** 100517\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/11/17 22:05  
**Analyst:** MB

**Date Collected:** 10/05/17 15:34  
**Date Received:** 10/10/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.262   | 0.100 | --  | 0.837   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1736548**Project Number:** 683-057**Report Date:** 10/12/17**SAMPLE RESULTS**

**Lab ID:** L1736548-04  
**Client ID:** 100517\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/11/17 23:14  
**Analyst:** MB

**Date Collected:** 10/05/17 14:55  
**Date Received:** 10/10/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.258   | 0.100 | --  | 0.824   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 87         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

### SAMPLE RESULTS

Lab ID: L1736548-05  
 Client ID: 100517\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/11/17 23:48  
 Analyst: MB

Date Collected: 10/05/17 15:31  
 Date Received: 10/10/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.227   | 0.100 | --  | 0.725   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 86         |           | 60-140              |



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

### SAMPLE RESULTS

Lab ID: L1736548-06  
 Client ID: 100517\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/12/17 00:22  
 Analyst: MB

Date Collected: 10/05/17 15:32  
 Date Received: 10/10/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.112   | 0.100 | --  | 0.358   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/11/17 15:28

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1051296-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/11/17 15:28

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1051296-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/11/17 15:28

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1051296-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/11/17 15:28

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1051296-4 |         |       |     |         |       |     |           |                 |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

| Parameter  | LCS       | Qual | LCS       | Qual | %Recovery | RPD | Qual | RPD    |
|--|-----------|------|-----------|------|-----------|-----|------|--------|
|  | %Recovery |      | %Recovery |      | Limits    |     |      | Limits |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1051296-3 |           |      |           |      |           |     |      |        |
| Propylene  | 118       |      | -         |      | 70-130    | -   |      | 25     |
| Dichlorodifluoromethane  | 87        |      | -         |      | 70-130    | -   |      | 25     |
| Chloromethane  | 113       |      | -         |      | 70-130    | -   |      | 25     |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 92        |      | -         |      | 70-130    | -   |      | 25     |
| Vinyl chloride   | 105       |      | -         |      | 70-130    | -   |      | 25     |
| 1,3-Butadiene  | 119       |      | -         |      | 70-130    | -   |      | 25     |
| Bromomethane   | 90        |      | -         |      | 70-130    | -   |      | 25     |
| Chloroethane   | 97        |      | -         |      | 70-130    | -   |      | 25     |
| Ethyl Alcohol  | 108       |      | -         |      | 70-130    | -   |      | 25     |
| Vinyl bromide  | 82        |      | -         |      | 70-130    | -   |      | 25     |
| Acetone  | 110       |      | -         |      | 70-130    | -   |      | 25     |
| Trichlorofluoromethane   | 89        |      | -         |      | 70-130    | -   |      | 25     |
| iso-Propyl Alcohol   | 113       |      | -         |      | 70-130    | -   |      | 25     |
| Acrylonitrile  | 107       |      | -         |      | 70-130    | -   |      | 25     |
| 1,1-Dichloroethene   | 96        |      | -         |      | 70-130    | -   |      | 25     |
| Methylene chloride   | 109       |      | -         |      | 70-130    | -   |      | 25     |
| 3-Chloropropene  | 114       |      | -         |      | 70-130    | -   |      | 25     |
| Carbon disulfide   | 86        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 84        |      | -         |      | 70-130    | -   |      | 25     |
| Halothane  | 89        |      | -         |      | 70-130    | -   |      | 25     |
| trans-1,2-Dichloroethene   | 87        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1-Dichloroethane   | 93        |      | -         |      | 70-130    | -   |      | 25     |
| Methyl tert butyl ether  | 80        |      | -         |      | 70-130    | -   |      | 25     |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|-----------|------|-----------|------|---------------------|-----|------|---------------|
|  | %Recovery | Qual | %Recovery | Qual |                     |     |      |               |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1051296-3 |           |      |           |      |                     |     |      |               |
| Vinyl acetate  | 70        |      | -         |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 93        |      | -         |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 88        |      | -         |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 96        |      | -         |      | 70-130              | -   |      | 25            |
| Chloroform   | 90        |      | -         |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 93        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 91        |      | -         |      | 70-130              | -   |      | 25            |
| n-Hexane   | 119       |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 107       |      | -         |      | 70-130              | -   |      | 25            |
| Benzene  | 110       |      | -         |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 109       |      | -         |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 116       |      | -         |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 92        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 118       |      | -         |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 116       |      | -         |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 108       |      | -         |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 100       |      | -         |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 126       |      | -         |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 115       |      | -         |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 129       |      | -         |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 101       |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 111       |      | -         |      | 70-130              | -   |      | 25            |
| Toluene  | 92        |      | -         |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1051296-3 |                  |      |                   |      |                     |     |      |               |
| 2-Hexanone   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene   | 84               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF

**Project Number:** 683-057

**Lab Number:** L1736548

**Report Date:** 10/12/17

| <b>Parameter</b>   | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1051296-3 |                          |             |                           |             |                             |            |             |                       |
| 1,2-Dichlorobenzene  | 94                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| n-Butylbenzene   | 102                      |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2,4-Trichlorobenzene   | 95                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Naphthalene  | 98                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2,3-Trichlorobenzene   | 89                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Hexachlorobutadiene  | 88                       |             | -                         |             | 70-130                      | -          |             | 25                    |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1736548

Report Date: 10/12/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1051296-5 QC Sample: L1736548-03 Client ID: 100517_1SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | 0.262         | 0.266            | ppbV  | 2   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

## SAMPLE RESULTS

Lab ID: L1736548-01  
 Client ID: 100517\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/11/17 20:56  
 Analyst: MB

Date Collected: 10/05/17 15:35  
 Date Received: 10/10/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 75     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.9    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.93   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 50-200              |
| Bromochloromethane  | 92         |           | 50-200              |
| Chlorobenzene-d5    | 92         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

**SAMPLE RESULTS**

Lab ID: L1736548-02  
 Client ID: 100517\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/11/17 21:30  
 Analyst: MB

Date Collected: 10/05/17 15:33  
 Date Received: 10/10/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.68   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 47     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 87         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 90         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

## SAMPLE RESULTS

Lab ID: L1736548-03  
 Client ID: 100517\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/11/17 22:05  
 Analyst: MB

Date Collected: 10/05/17 15:34  
 Date Received: 10/10/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.81   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 54     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 90         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

**SAMPLE RESULTS**

Lab ID: L1736548-04  
 Client ID: 100517\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/11/17 23:14  
 Analyst: MB

Date Collected: 10/05/17 14:55  
 Date Received: 10/10/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.82   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 140    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.3    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 87         |           | 50-200              |
| Bromochloromethane  | 93         |           | 50-200              |
| Chlorobenzene-d5    | 91         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

**SAMPLE RESULTS**

Lab ID: L1736548-05  
 Client ID: 100517\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/11/17 23:48  
 Analyst: MB

Date Collected: 10/05/17 15:31  
 Date Received: 10/10/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.71   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 57     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.6    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 87         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 89         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

**SAMPLE RESULTS**

Lab ID: L1736548-06  
 Client ID: 100517\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/12/17 00:22  
 Analyst: MB

Date Collected: 10/05/17 15:32  
 Date Received: 10/10/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 15     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 90         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 10/11/17 14:53  
Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1051298-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1736548

Project Number: 683-057

Report Date: 10/12/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1051298-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 120              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 104              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 101              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 111              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 92               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 92               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 91               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 97               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 109              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 104              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 84               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1736548

Report Date: 10/12/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1051298-5 QC Sample: L1736548-03 Client ID: 100517_1SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 0.81          | 0.85             | ug/m3 | 5   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 54            | 53               | ug/m3 | 2   |      | 30         |
| Toluene   | 4.5           | 4.5              | ug/m3 | 0   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 1.9           | 2.0              | ug/m3 | 5   |      | 30         |
| o-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Project Number: 683-057

Serial\_No:10121715:31  
Lab Number: L1736548

Report Date: 10/12/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1736548-01 | 100517_2SE | 0545     | Flow 5     | 10/03/17      | 247753       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1736548-01 | 100517_2SE | 2361     | 2.7L Can   | 10/03/17      | 247753       | L1734697-02       | Pass           | -30.0                     | -5.9                         | -                        | -               | -              | -     |
| L1736548-02 | 100517_1C  | 0117     | Flow 5     | 10/03/17      | 247753       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1736548-02 | 100517_1C  | 321      | 2.7L Can   | 10/03/17      | 247753       | L1734697-02       | Pass           | -30.0                     | -5.9                         | -                        | -               | -              | -     |
| L1736548-03 | 100517_1SE | 0155     | Flow 5     | 10/03/17      | 247753       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.6            | 4     |
| L1736548-03 | 100517_1SE | 2215     | 2.7L Can   | 10/03/17      | 247753       | L1734697-02       | Pass           | -30.0                     | -5.7                         | -                        | -               | -              | -     |
| L1736548-04 | 100517_BC  | 0175     | Flow 5     | 10/03/17      | 247753       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1736548-04 | 100517_BC  | 2385     | 2.7L Can   | 10/03/17      | 247753       | L1734697-02       | Pass           | -29.1                     | -4.1                         | -                        | -               | -              | -     |
| L1736548-05 | 100517_BSW | 0072     | Flow 3     | 10/03/17      | 247753       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.6            | 4     |
| L1736548-05 | 100517_BSW | 332      | 2.7L Can   | 10/03/17      | 247753       | L1734697-01       | Pass           | -30.0                     | -5.9                         | -                        | -               | -              | -     |
| L1736548-06 | 100517_BNE | 0021     | Flow 5     | 10/03/17      | 247753       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.7            | 4     |
| L1736548-06 | 100517_BNE | 473      | 2.7L Can   | 10/03/17      | 247753       | L1734697-01       | Pass           | -30.0                     | -6.3                         | -                        | -               | -              | -     |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/28/17 18:49  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethyl Alcohol                            | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| iso-Propyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| tert-Butyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane    | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Isopropyl Ether                          | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Ethyl-Tert-Butyl-Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Tertiary-Amyl Methyl Ether               | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/12/17

## Air Canister Certification Results

Lab ID: L1734697-01

Date Collected: 09/27/17 16:00

Client ID: CAN 1722 SHELF 8

Date Received: 09/28/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl Acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane (C9)                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| o-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| p-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane (C10)                             | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane (C12)                           | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 60-140              |
| Bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/28/17 18:49  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Propylene                                       | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane          | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol                                   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide                                   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                                 | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                                | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane           | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                                   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate                                   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran                                 | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane                                     | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane                                  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane                          | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone                                      | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane                          | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                                    | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/28/17 19:21  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethyl Alcohol                            | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| iso-Propyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| tert-Butyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02 Date Collected: 09/27/17 16:00  
 Client ID: CAN 384 SHELF 9 Date Received: 09/28/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane    | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Isopropyl Ether                          | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Ethyl-Tert-Butyl-Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Tertiary-Amyl Methyl Ether               | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl Acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane (C9)                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| o-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| p-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane (C10)                             | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane (C12)                           | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02 Date Collected: 09/27/17 16:00  
 Client ID: CAN 384 SHELF 9 Date Received: 09/28/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 86         |           | 60-140              |

**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/28/17 19:21  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Propylene                                       | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane          | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol                                   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide                                   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol                              | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                                 | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                                | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane           | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                                   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate                                   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran                                 | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane                                     | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane                                  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane                          | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone                                      | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |



**Project Name:**  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

### Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane                          | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                                    | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 94         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** Not Specified  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

**AIR CAN CERTIFICATION RESULTS**

Lab ID: L1734697-01  
 Client ID: CAN 1722 SHELF 8  
 Sample Location: Not Specified  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/28/17 18:49  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** Not Specified  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1734697  
**Report Date:** 10/12/17

**AIR CAN CERTIFICATION RESULTS**

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location: Not Specified  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/28/17 19:21  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

Serial\_No:10121715:31  
**Lab Number:** L1736548  
**Report Date:** 10/12/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| N/A           | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|-------------------------|
| L1736548-01A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1736548-02A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1736548-03A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1736548-04A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1736548-05A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1736548-06A        | Canister - 2.7 Liter  | N/A           | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1736548  
**Report Date:** 10/12/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Phone: 425-295-0800

Fax: 425-295-0850

Email: avining@farallonconsulting.com

Date Due: Time:

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 10/10/17

ALPHA Job #: L1736548

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |
|           |         |                        |

### Analysis

| TO-15                    | TO-15 SIM                           | APH Subtract non-petroleum HCs      | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 |                          |                          | Sample Specific Comments (i.e. PID) |
|--------------------|-----------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|-------------------------------------|
|                    |           | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                          |                          |                                     |
| 36548-01           | _2SE      | 10/5/17    | 735        | 1535     | 29.21       | 4.94      | AA             | MB               | 2.7      | 2361   | 0545               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 02                 | _1C       | 10/5/17    | 733        | 1533     | 28.98       | 4.71      | AA             | MB               | 2.7      | 321    | 0117               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 03                 | _1SE      | 10/5/17    | 734        | 1534     | 29.73       | 5.14      | AA             | MB               | 2.7      | 2215   | 0155               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 04                 | _BC       | 10/5/17    | 730        | 1455     | 26.44       | 3.88      | AA             | MB               | 2.7      | 2385   | 0175               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 05                 | _BSW      | 10/5/17    | 731        | 1531     | 29.09       | 4.65      | AA             | MB               | 2.7      | 332    | 0072               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 06                 | _BNE      | 10/5/17    | 732        | 1532     | 28.92       | 5.25      | AA             | MB               | 2.7      | 473    | 0021               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type - - - - -

| Relinquished By    | Date/Time     | Received By:       | Date/Time     |
|--------------------|---------------|--------------------|---------------|
| <i>[Signature]</i> | 10/6/17 10:30 | <i>[Signature]</i> | 10/10/17 2:33 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

**AIR ANALYSIS**

PAGE 1 OF 1

**CHAIN OF CUSTODY**



320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3286

**Client Information**

Client: Farallon Consulting

Address: 975 5th Avenue Northwest

Issaquah, Washington 98027

Phone: 425-295-0800

Fax: 425-295-0850

Email: avining@farallonconsulting.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List

3-DAY TURNAROUND

SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

**All Columns Below Must Be Filled Out**

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller |
|--------------------|------------|------------|------------|----------|-------------|----------------|------------------|----------|--------|--------------------|
|                    |            | End Date   | Start Time | End Time | Initial Vac |                |                  |          |        |                    |
|                    | 100517_2SE | 10/5/17    | 7:35       | 15:35    | 28.21       | 4.94           | MB               | 2.7      | 2361   | 0845               |
|                    | 100517_1C  | 10/5/17    | 7:33       | 15:33    | 28.48       | 4.71           | MB               | 2.7      | 321    | 0117               |
|                    | 100517_1SE | 10/5/17    | 7:34       | 15:34    | 29.73       | 5.14           | MB               | 2.7      | 2215   | 0155               |
|                    | 100517_BC  | 10/5/17    | 7:30       | 14:55    | 26.44       | 3.88           | MB               | 2.7      | 2365   | 0175               |
|                    | 100517_BSW | 10/5/17    | 7:31       | 15:31    | 29.09       | 4.65           | MB               | 2.7      | 332    | 0072               |
|                    | 100517_BNE | 10/5/17    | 7:32       | 15:32    | 28.92       | 5.25           | MB               | 2.7      | 473    | 0021               |

**\*SAMPLE MATRIX CODES:**

AA = Ambient Air (Indoor/Outdoor)  
 SW = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (1) Rev. 25-Sept-15

Date Rec'd in Lab:

ALPHA Job #:

**Report/Data Deliverables Information**

FAX  EMAIL  Add'l Deliverables

**Billing Information**

Same as Client info  PO #:

**Regulatory Requirements/Report Limits**

State/Fed Program Residential/Commercial

**Analysis**

| TO-15 SIM                           | TO-15 SIM                           | APH Subtract non-petroleum HCs      | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

| Date/Time | Received By:       | Date/Time |
|-----------|--------------------|-----------|
| 10/17/17  | <i>[Signature]</i> |           |
|           |                    |           |
|           |                    |           |



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1737416  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 10/18/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1737416-01                | 101217_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 10/12/17 16:17                  | 10/16/17            |
| L1737416-02                | 101217_1C        | AIR           | SKYKOMISH, WASHINGTON      | 10/12/17 16:15                  | 10/16/17            |
| L1737416-03                | 101217_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 10/12/17 16:16                  | 10/16/17            |
| L1737416-04                | 101217_BC        | AIR           | SKYKOMISH, WASHINGTON      | 10/12/17 16:19                  | 10/16/17            |
| L1737416-05                | 101217_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 10/12/17 16:20                  | 10/16/17            |
| L1737416-06                | 101217_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 10/12/17 16:18                  | 10/16/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on October 10, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1737416-01: Isopropyl alcohol, methylene chloride, 1-propanol, trimethylsilanol, 2-butanone, hexamethyldisiloxane, hexanal, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1737416-01: Benzaldehyde, limonene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1737416-02: Isopropyl alcohol, methylene chloride, 1-propanol, trimethylsilanol, 2-butanone, hexanal, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1737416-02: Limonene, alpha-pinene, 1,4-dichlorobenzene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1737416-03: Isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, hexamethyldisiloxane, hexanal, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

### Case Narrative (continued)

L1737416-03: Limonene, alpha-pinene, 1,4-dichlorobenzene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1737416-04: Isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, hexamethyldisiloxane, hexanal, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1737416-04: Limonene, alpha-pinene, 1,4-dichlorobenzene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1737416-05: Isopropyl alcohol, methylene chloride, 1-propanol, trimethylsilanol, 2-butanone, hexanal, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1737416-05: Limonene, alpha-pinene, 1,4-dichlorobenzene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1737416-06: Isopropyl alcohol, 1-propanol, trimethylsilanol, 2-butanone, hexanal, hexamethylcyclotrisiloxane and heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1737416-06: Limonene, alpha-pinene, nonanal and unknown siloxanes are present in the C9-C12 Aliphatic

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

**Case Narrative (continued)**

Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 10/18/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1737416**Project Number:** 683-057**Report Date:** 10/18/17**SAMPLE RESULTS**

**Lab ID:** L1737416-01  
**Client ID:** 101217\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/17/17 19:55  
**Analyst:** MB

**Date Collected:** 10/12/17 16:17  
**Date Received:** 10/16/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.384   | 0.100 | --  | 1.23    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1737416**Project Number:** 683-057**Report Date:** 10/18/17**SAMPLE RESULTS**

**Lab ID:** L1737416-02  
**Client ID:** 101217\_1C  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/17/17 21:01  
**Analyst:** MB

**Date Collected:** 10/12/17 16:15  
**Date Received:** 10/16/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.367   | 0.100 | --  | 1.17    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 77         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 79         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1737416**Project Number:** 683-057**Report Date:** 10/18/17**SAMPLE RESULTS**

**Lab ID:** L1737416-03  
**Client ID:** 101217\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/17/17 21:33  
**Analyst:** MB

**Date Collected:** 10/12/17 16:16  
**Date Received:** 10/16/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.270   | 0.100 | --  | 0.863   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 76         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1737416**Project Number:** 683-057**Report Date:** 10/18/17**SAMPLE RESULTS**

**Lab ID:** L1737416-04  
**Client ID:** 101217\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/17/17 22:06  
**Analyst:** MB

**Date Collected:** 10/12/17 16:19  
**Date Received:** 10/16/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.239   | 0.100 | --  | 0.764   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1737416**Project Number:** 683-057**Report Date:** 10/18/17**SAMPLE RESULTS**

**Lab ID:** L1737416-05  
**Client ID:** 101217\_BSW  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/17/17 22:39  
**Analyst:** MB

**Date Collected:** 10/12/17 16:20  
**Date Received:** 10/16/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.199   | 0.100 | --  | 0.636   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 88         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1737416**Project Number:** 683-057**Report Date:** 10/18/17**SAMPLE RESULTS**

**Lab ID:** L1737416-06  
**Client ID:** 101217\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/17/17 23:11  
**Analyst:** MB

**Date Collected:** 10/12/17 16:18  
**Date Received:** 10/16/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.221   | 0.100 | --  | 0.706   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 77         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 77         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/17/17 12:59

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1053251-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/17/17 12:59

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1053251-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/17/17 12:59

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1053251-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/17/17 12:59

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1053251-4 |         |       |     |         |       |     |           |                 |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1053251-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether  | 88               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1053251-3 |                  |      |                   |      |                     |     |      |               |
| Vinyl acetate  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 72               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 76               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1053251-3 |                  |      |                   |      |                     |     |      |               |
| 2-Hexanone   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene   | 83               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF

**Project Number:** 683-057

**Lab Number:** L1737416

**Report Date:** 10/18/17

| Parameter  | <i>LCS</i><br>%Recovery | <i>Qual</i> | <i>LCSD</i><br>%Recovery | <i>Qual</i> | <i>%Recovery</i><br>Limits | <i>RPD</i> | <i>Qual</i> | <i>RPD</i><br>Limits |
|--|-------------------------|-------------|--------------------------|-------------|----------------------------|------------|-------------|----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1053251-3 |                         |             |                          |             |                            |            |             |                      |
| 1,2-Dichlorobenzene  | 93                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| n-Butylbenzene   | 92                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,4-Trichlorobenzene   | 105                     |             | -                        |             | 70-130                     | -          |             | 25                   |
| Naphthalene  | 96                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| 1,2,3-Trichlorobenzene   | 94                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Hexachlorobutadiene  | 95                      |             | -                        |             | 70-130                     | -          |             | 25                   |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1737416

Report Date: 10/18/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1053251-5 QC Sample: L1737416-01 Client ID: 101217_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | 0.384         | 0.413            | ppbV  | 7   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

## SAMPLE RESULTS

Lab ID: L1737416-01  
 Client ID: 101217\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/17/17 19:55  
 Analyst: MB

Date Collected: 10/12/17 16:17  
 Date Received: 10/16/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 1.3 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 71  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 10  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | 1.2 |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 4.6 |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 1.4 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 90         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

## SAMPLE RESULTS

Lab ID: L1737416-02  
 Client ID: 101217\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/17/17 21:01  
 Analyst: MB

Date Collected: 10/12/17 16:15  
 Date Received: 10/16/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |     |  |       |      |    |   |
|-----------------------------|-----|--|-------|------|----|---|
| 1,3-Butadiene               | ND  |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND  |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 1.3 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 70  |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 9.6 |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | 1.2 |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 4.7 |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 1.5 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND  |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND  |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND  |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 76         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 79         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

## SAMPLE RESULTS

Lab ID: L1737416-03  
 Client ID: 101217\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/17/17 21:33  
 Analyst: MB

Date Collected: 10/12/17 16:16  
 Date Received: 10/16/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.91 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 47   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 6.6  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | 0.90 |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 3.0  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 0.96 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 74         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 77         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

## SAMPLE RESULTS

Lab ID: L1737416-04  
 Client ID: 101217\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/17/17 22:06  
 Analyst: MB

Date Collected: 10/12/17 16:19  
 Date Received: 10/16/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.77   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 48     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.3    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 77         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

## SAMPLE RESULTS

Lab ID: L1737416-05  
 Client ID: 101217\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/17/17 22:39  
 Analyst: MB

Date Collected: 10/12/17 16:20  
 Date Received: 10/16/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.70   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 34     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.7    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 76         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 78         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

## SAMPLE RESULTS

Lab ID: L1737416-06  
 Client ID: 101217\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/17/17 23:11  
 Analyst: MB

Date Collected: 10/12/17 16:18  
 Date Received: 10/16/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.72 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 31   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 4.3  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.1  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 77         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 78         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 10/17/17 12:59  
 Analyst: MB

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1053248-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1737416

Report Date: 10/18/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1053248-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 89               |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 92               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 86               |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 81               |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 96               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 97               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 97               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 99               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 121              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 98               |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 86               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1737416

Report Date: 10/18/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1053248-5 QC Sample: L1737416-01 Client ID: 101217_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.3           | 1.4              | ug/m3 | 7   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 71            | 76               | ug/m3 | 7   |      | 30         |
| Toluene   | 10            | 11               | ug/m3 | 10  |      | 30         |
| Ethylbenzene  | 1.2           | 1.3              | ug/m3 | 8   |      | 30         |
| p/m-Xylene  | 4.6           | 5.0              | ug/m3 | 8   |      | 30         |
| o-Xylene  | 1.4           | 1.5              | ug/m3 | 7   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:10181714:03  
Lab Number: L1737416

Project Number: 683-057

Report Date: 10/18/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1737416-01 | 101217_2SE | 0340     | Flow 5     | 10/10/17      | 247754       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.8            | 9     |
| L1737416-01 | 101217_2SE | 2033     | 2.7L Can   | 10/10/17      | 247754       | L1736039-01       | Pass           | -30.0                     | -4.4                         | -                        | -               | -              | -     |
| L1737416-02 | 101217_1C  | 0367     | Flow 5     | 10/10/17      | 247754       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.5            | 5     |
| L1737416-02 | 101217_1C  | 2213     | 2.7L Can   | 10/10/17      | 247754       | L1736039-01       | Pass           | -30.0                     | -7.5                         | -                        | -               | -              | -     |
| L1737416-03 | 101217_1SE | 0298     | Flow 5     | 10/10/17      | 247754       |                   | -              | -                         | -                            | Pass                     | 4.5             | 3.6            | 22    |
| L1737416-03 | 101217_1SE | 2280     | 2.7L Can   | 10/10/17      | 247754       | L1736039-01       | Pass           | -30.0                     | -7.3                         | -                        | -               | -              | -     |
| L1737416-04 | 101217_BC  | 0982     | Flow 5     | 10/10/17      | 247754       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.7            | 7     |
| L1737416-04 | 101217_BC  | 2364     | 2.7L Can   | 10/10/17      | 247754       | L1736039-01       | Pass           | -30.0                     | -4.2                         | -                        | -               | -              | -     |
| L1737416-05 | 101217_BSW | 0427     | Flow 5     | 10/10/17      | 247754       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.7            | 7     |
| L1737416-05 | 101217_BSW | 2071     | 2.7L Can   | 10/10/17      | 247754       | L1736039-01       | Pass           | -30.0                     | -6.5                         | -                        | -               | -              | -     |
| L1737416-06 | 101217_BNE | 0458     | Flow 5     | 10/10/17      | 247754       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.7            | 7     |
| L1737416-06 | 101217_BNE | 179      | 2.7L Can   | 10/10/17      | 247754       | L1736039-01       | Pass           | -30.0                     | -7.0                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1736039  
**Report Date:** 10/18/17

### Air Canister Certification Results

Lab ID: L1736039-01  
 Client ID: CAN 555 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/06/17 19:57  
 Analyst: RY

Date Collected: 10/05/17 16:00  
 Date Received: 10/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1736039  
**Report Date:** 10/18/17

### Air Canister Certification Results

Lab ID: L1736039-01 Date Collected: 10/05/17 16:00  
 Client ID: CAN 555 SHELF 7 Date Received: 10/06/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1736039  
**Report Date:** 10/18/17

### Air Canister Certification Results

Lab ID: L1736039-01 Date Collected: 10/05/17 16:00  
 Client ID: CAN 555 SHELF 7 Date Received: 10/06/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1736039  
**Report Date:** 10/18/17

### Air Canister Certification Results

Lab ID: L1736039-01  
 Client ID: CAN 555 SHELF 7  
 Sample Location:

Date Collected: 10/05/17 16:00  
 Date Received: 10/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1736039**Project Number:** CANISTER QC BAT**Report Date:** 10/18/17**Air Canister Certification Results**

Lab ID: L1736039-01

Date Collected: 10/05/17 16:00

Client ID: CAN 555 SHELF 7

Date Received: 10/06/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1736039  
**Report Date:** 10/18/17

### Air Canister Certification Results

Lab ID: L1736039-01  
 Client ID: CAN 555 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/06/17 19:57  
 Analyst: RY

Date Collected: 10/05/17 16:00  
 Date Received: 10/06/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1736039

Project Number: CANISTER QC BAT

Report Date: 10/18/17

## Air Canister Certification Results

Lab ID: L1736039-01

Date Collected: 10/05/17 16:00

Client ID: CAN 555 SHELF 7

Date Received: 10/06/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1736039

Project Number: CANISTER QC BAT

Report Date: 10/18/17

## Air Canister Certification Results

Lab ID: L1736039-01

Date Collected: 10/05/17 16:00

Client ID: CAN 555 SHELF 7

Date Received: 10/06/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 95         |           | 60-140              |
| chlorobenzene-d5    | 91         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1736039**Project Number:** CANISTER QC BAT**Report Date:** 10/18/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1736039-01  
**Client ID:** CAN 555 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 10/06/17 19:57  
**Analyst:** RY

**Date Collected:** 10/05/17 16:00  
**Date Received:** 10/06/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH HWF

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| L1737416-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1737416-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1737416-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1737416-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1737416-05A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1737416-06A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1737416  
**Report Date:** 10/18/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE 1 OF 1



## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington  
 Project #: 683-057

Project Manager: Andrew Vining  
 ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027  
 Phone: 425-295-0800  
 Fax: 425-295-0850  
 Email: avining@farallonconsulting.com

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 10/16/17

ALPHA Job #: L1737416

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |
|--------------------------|-------------------------------------|-----------------------------------|--------------------------|--------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |  |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 |                          |                          |                          |  |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|--|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                          |                          |                          |  |
| 37416-01           | 101217_2SE | 10/12/17   | 817        | 1617     | 27.94       | 3.51      | AA             | MB               | 2.7      | 2033   | 0340               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 02                 | 101217_1C  |            | 815        | 1615     | 27.64       | 6.73      | AA             | MB               | 2.7      | 2213   | 0367               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 03                 | 101217_1SE |            | 816        | 1616     | 27.54       | 7.86      | AA             | MB               | 2.7      | 2280   | 0298               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 04                 | 101217_BC  |            | 819        | 1619     | 29.26       | 5.43      | AA             | MB               | 2.7      | 2264   | 0982               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 05                 | 101217_BSW |            | 820        | 1620     | 29.73       | 5.46      | AA             | MB               | 2.7      | 2571   | 0427               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 06                 | 101217_BNE |            | 818        | 1618     | 28.98       | 5.91      | AA             | MB               | 2.7      | 179    | 0458               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev 25-Sept-15

| Relinquished By    | Date/Time     | Received By:              | Date/Time     |
|--------------------|---------------|---------------------------|---------------|
| <i>[Signature]</i> | 10/16/17 1300 | USPS<br>Kim Barlow - AAPL | 10/16/17 1300 |
| USPS               |               |                           |               |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1738718  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 10/30/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1738718-01                | 102017_2SE       | AIR           | SKYKOMISH, WASHINGTON      | 10/20/17 15:40                  | 10/25/17            |
| L1738718-02                | 102017_1C        | AIR           | SKYKOMISH, WASHINGTON      | 10/20/17 15:38                  | 10/25/17            |
| L1738718-03                | 102017_1SE       | AIR           | SKYKOMISH, WASHINGTON      | 10/20/17 15:39                  | 10/25/17            |
| L1738718-04                | 102017_BC        | AIR           | SKYKOMISH, WASHINGTON      | 10/20/17 15:36                  | 10/25/17            |
| L1738718-05                | 102017_BSW       | AIR           | SKYKOMISH, WASHINGTON      | 10/20/17 15:35                  | 10/25/17            |
| L1738718-06                | 102017_BNE       | AIR           | SKYKOMISH, WASHINGTON      | 10/20/17 15:37                  | 10/25/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on October 19, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1738718-01: Isopropyl Alcohol, 2-Butanone, Hexanal, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1738718-01: D-Limonene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1738718-02: Isopropyl Alcohol, Hexanal, and siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1738718-02: D-Limonene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1738718-03: Isopropyl Alcohol, Hexanal, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1738718-03: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

### Case Narrative (continued)

L1738718-04: Isopropyl Alcohol, 1-butanol and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1738718-04: D-Limonene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1738718-05: Isopropyl Alcohol, 1-butanol and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1738718-05: D-Limonene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1738718-06: Isopropyl Alcohol, Hexanal, and Heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1738718-06: D-Limonene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 10/30/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1738718**Project Number:** 683-057**Report Date:** 10/30/17**SAMPLE RESULTS**

**Lab ID:** L1738718-01  
**Client ID:** 102017\_2SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/26/17 23:46  
**Analyst:** RY

**Date Collected:** 10/20/17 15:40  
**Date Received:** 10/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.031   | 0.020 | --  | 0.069   | 0.044 | --  |           | 1               |
| Benzene   | 0.390   | 0.100 | --  | 1.25    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 83         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1738718**Project Number:** 683-057**Report Date:** 10/30/17**SAMPLE RESULTS**

**Lab ID:** L1738718-02  
**Client ID:** 102017\_1C  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/27/17 00:21  
**Analyst:** RY

**Date Collected:** 10/20/17 15:38  
**Date Received:** 10/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.030   | 0.020 | --  | 0.066   | 0.044 | --  |           | 1               |
| Benzene   | 0.326   | 0.100 | --  | 1.04    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 81         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1738718**Project Number:** 683-057**Report Date:** 10/30/17**SAMPLE RESULTS**

**Lab ID:** L1738718-03  
**Client ID:** 102017\_1SE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/27/17 00:55  
**Analyst:** RY

**Date Collected:** 10/20/17 15:39  
**Date Received:** 10/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.297   | 0.100 | --  | 0.949   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 83         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1738718**Project Number:** 683-057**Report Date:** 10/30/17**SAMPLE RESULTS**

**Lab ID:** L1738718-04  
**Client ID:** 102017\_BC  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/27/17 02:04  
**Analyst:** RY

**Date Collected:** 10/20/17 15:36  
**Date Received:** 10/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.230   | 0.100 | --  | 0.735   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 82         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1738718**Project Number:** 683-057**Report Date:** 10/30/17**SAMPLE RESULTS**

**Lab ID:** L1738718-05  
**Client ID:** 102017\_BSW  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/27/17 08:31  
**Analyst:** MB

**Date Collected:** 10/20/17 15:35  
**Date Received:** 10/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.198   | 0.100 | --  | 0.633   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1738718**Project Number:** 683-057**Report Date:** 10/30/17**SAMPLE RESULTS**

**Lab ID:** L1738718-06  
**Client ID:** 102017\_BNE  
**Sample Location:** SKYKOMISH, WASHINGTON  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/27/17 07:56  
**Analyst:** MB

**Date Collected:** 10/20/17 15:37  
**Date Received:** 10/25/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.051   | 0.020 | --  | 0.113   | 0.044 | --  |           | 1               |
| Benzene   | 0.169   | 0.100 | --  | 0.540   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/26/17 15:38

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1056691-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/26/17 15:38

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1056691-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/26/17 15:38

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1056691-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/26/17 15:38

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1056691-4 |         |       |     |         |       |     |           |                 |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1056691-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 123              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 123              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 124              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 122              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 128              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 125              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 75               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether  | 71               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1056691-3 |                  |      |                   |      |                     |     |      |               |
| Vinyl acetate  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 77               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 120              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 119              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1056691-3 |                  |      |                   |      |                     |     |      |               |
| 2-Hexanone   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene   | 76               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1738718

Report Date: 10/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1056691-3 |                  |      |                   |      |                     |     |      |               |
| 1,2-Dichlorobenzene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 75               |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 79               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1738718

Report Date: 10/30/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1056691-5 QC Sample: L1738380-11 Client ID: DUP Sample |               |                  |       |     |      |            |
| Vinyl chloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethene  | 0.028         | 0.028            | ppbV  | 0   |      | 25         |
| 1,1-Dichloroethane  | 0.038         | 0.044            | ppbV  | 15  |      | 25         |
| cis-1,2-Dichloroethene  | 0.059         | 0.060            | ppbV  | 2   |      | 25         |
| 1,2-Dichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1-Trichloroethane   | 0.072         | 0.071            | ppbV  | 1   |      | 25         |
| Trichloroethene   | 0.335         | 0.338            | ppbV  | 1   |      | 25         |
| Tetrachloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1738718-01  
 Client ID: 102017\_2SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/26/17 23:46  
 Analyst: GJ

Date Collected: 10/20/17 15:40  
 Date Received: 10/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 100    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 7.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 84         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

**SAMPLE RESULTS**

Lab ID: L1738718-02  
 Client ID: 102017\_1C  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/27/17 00:21  
 Analyst: GJ

Date Collected: 10/20/17 15:38  
 Date Received: 10/25/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

**Petroleum Hydrocarbons in Air - Mansfield Lab**

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 1.1  |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 91   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 6.4  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 3.3  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | 0.97 |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 16   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1738718-03  
 Client ID: 102017\_1SE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/27/17 00:55  
 Analyst: GJ

Date Collected: 10/20/17 15:39  
 Date Received: 10/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.94 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 74   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 5.6  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 2.6  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 84         |           | 50-200              |
| Chlorobenzene-d5    | 80         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1738718-04  
 Client ID: 102017\_BC  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/27/17 02:04  
 Analyst: GJ

Date Collected: 10/20/17 15:36  
 Date Received: 10/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | 0.74 |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 60   |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 3.8  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 1.9  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | ND   |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 82         |           | 50-200              |
| Chlorobenzene-d5    | 78         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1738718-05  
 Client ID: 102017\_BSW  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/27/17 08:31  
 Analyst: GJ

Date Collected: 10/20/17 15:35  
 Date Received: 10/25/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.61   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 64     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 79         |           | 50-200              |
| Bromochloromethane  | 84         |           | 50-200              |
| Chlorobenzene-d5    | 79         |           | 50-200              |

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

**SAMPLE RESULTS**

Lab ID: L1738718-06  
 Client ID: 102017\_BNE  
 Sample Location: SKYKOMISH, WASHINGTON  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 10/27/17 07:56  
 Analyst: GJ

Date Collected: 10/20/17 15:37  
 Date Received: 10/25/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 59     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 1.9    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 14     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 85         |           | 50-200              |
| Bromochloromethane  | 138        |           | 50-200              |
| Chlorobenzene-d5    | 88         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 10/26/17 15:03  
 Analyst: GJ

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1056692-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1056692-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 129              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 102              |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 102              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 112              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 94               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 94               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 95               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 96               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 94               |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 95               |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 75               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1738718

Report Date: 10/30/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1056692-5 QC Sample: L1738718-03 Client ID: 102017_1SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 0.94          | 0.94             | ug/m3 | 0   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 74            | 78               | ug/m3 | 5   |      | 30         |
| Toluene   | 5.6           | 5.9              | ug/m3 | 5   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 2.6           | 2.8              | ug/m3 | 7   |      | 30         |
| o-Xylene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:10301714:09  
Lab Number: L1738718

Project Number: 683-057

Report Date: 10/30/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1738718-01 | 102017_2SE | 0583     | Flow 5     | 10/19/17      | 251784       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1738718-01 | 102017_2SE | 416      | 2.7L Can   | 10/19/17      | 251784       | L1737408-02       | Pass           | -30.0                     | -6.1                         | -                        | -               | -              | -     |
| L1738718-02 | 102017_1C  | 0960     | Flow 5     | 10/19/17      | 251784       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1738718-02 | 102017_1C  | 252      | 2.7L Can   | 10/19/17      | 251784       | L1737408-02       | Pass           | -30.0                     | -6.1                         | -                        | -               | -              | -     |
| L1738718-03 | 102017_1SE | 0120     | Flow 5     | 10/19/17      | 251784       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1738718-03 | 102017_1SE | 1745     | 2.7L Can   | 10/19/17      | 251784       | L1737408-02       | Pass           | -30.0                     | -4.0                         | -                        | -               | -              | -     |
| L1738718-04 | 102017_BC  | 0158     | Flow 5     | 10/19/17      | 251784       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1738718-04 | 102017_BC  | 174      | 2.7L Can   | 10/19/17      | 251784       | L1737408-02       | Pass           | -30.0                     | -6.8                         | -                        | -               | -              | -     |
| L1738718-05 | 102017_BSW | 0397     | Flow 5     | 10/19/17      | 251784       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1738718-05 | 102017_BSW | 511      | 2.7L Can   | 10/19/17      | 251784       | L1737408-02       | Pass           | -30.0                     | -3.7                         | -                        | -               | -              | -     |
| L1738718-06 | 102017_BNE | 0586     | Flow 5     | 10/19/17      | 251784       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.6            | 22    |
| L1738718-06 | 102017_BNE | 343      | 2.7L Can   | 10/19/17      | 251784       | L1737408-02       | Pass           | -30.0                     | -1.9                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737408  
**Report Date:** 10/30/17

### Air Canister Certification Results

Lab ID: L1737408-02  
 Client ID: CAN 324 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/17/17 16:57  
 Analyst: RY

Date Collected: 10/16/17 16:00  
 Date Received: 10/17/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737408  
**Report Date:** 10/30/17

### Air Canister Certification Results

Lab ID: L1737408-02  
 Client ID: CAN 324 SHELF 2  
 Sample Location:

Date Collected: 10/16/17 16:00  
 Date Received: 10/17/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737408  
**Report Date:** 10/30/17

### Air Canister Certification Results

Lab ID: L1737408-02  
 Client ID: CAN 324 SHELF 2  
 Sample Location:

Date Collected: 10/16/17 16:00  
 Date Received: 10/17/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737408  
**Report Date:** 10/30/17

### Air Canister Certification Results

Lab ID: L1737408-02  
 Client ID: CAN 324 SHELF 2  
 Sample Location:

Date Collected: 10/16/17 16:00  
 Date Received: 10/17/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1737408**Project Number:** CANISTER QC BAT**Report Date:** 10/30/17**Air Canister Certification Results**

Lab ID: L1737408-02

Date Collected: 10/16/17 16:00

Client ID: CAN 324 SHELF 2

Date Received: 10/17/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 60-140              |
| Bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737408  
**Report Date:** 10/30/17

### Air Canister Certification Results

Lab ID: L1737408-02  
 Client ID: CAN 324 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/17/17 16:57  
 Analyst: RY

Date Collected: 10/16/17 16:00  
 Date Received: 10/17/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737408  
**Report Date:** 10/30/17

### Air Canister Certification Results

Lab ID: L1737408-02  
 Client ID: CAN 324 SHELF 2  
 Sample Location:

Date Collected: 10/16/17 16:00  
 Date Received: 10/17/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737408  
**Report Date:** 10/30/17

### Air Canister Certification Results

Lab ID: L1737408-02  
 Client ID: CAN 324 SHELF 2  
 Sample Location:

Date Collected: 10/16/17 16:00  
 Date Received: 10/17/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 77         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 78         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1737408**Project Number:** CANISTER QC BAT**Report Date:** 10/30/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1737408-02  
**Client ID:** CAN 324 SHELF 2  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 10/17/17 16:57  
**Analyst:** RY

**Date Collected:** 10/16/17 16:00  
**Date Received:** 10/17/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

Serial\_No:10301714:09  
**Lab Number:** L1738718  
**Report Date:** 10/30/17

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**  
 NA                                      Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|-------------------------|
| L1738718-01A        | Canister - 2.7 Liter  | NA            | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1738718-02A        | Canister - 2.7 Liter  | NA            | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1738718-03A        | Canister - 2.7 Liter  | NA            | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1738718-04A        | Canister - 2.7 Liter  | NA            | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1738718-05A        | Canister - 2.7 Liter  | NA            | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |
| L1738718-06A        | Canister - 2.7 Liter  | NA            | NA                |                 |                   | Y           | Absent      |                         | APH-10(30),TO15-SIM(30) |

\*Values in parentheses indicate holding time in days



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1738718  
**Report Date:** 10/30/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE OF

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Phone: 425-295-0800

Fax: 425-295-0850

Email: avining@farallonconsulting.com

Date Due: Time:

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 10/25/17

ALPHA Job #: L1738718

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |
|           |         |                        |

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs   | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments<br>(i.e. PID) |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |  |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |
| 38718-01           | 102017_2SE | 10/20/17   | 740        | 1540     | 28.55       | 6.19      | AA             | MB               | 2.7      | 416    | 0583               |
| 02                 | 102017_1C  | 10/20/17   | 738        | 1538     | 27.12       | 6.50      | AA             | MB               | 2.7      | 252    | 0960               |
| 03                 | 102017_1SE | 10/20/17   | 739        | 1539     | 28.59       | 4.30      | AA             | MB               | 2.7      | 1745   | 0120               |
| 04                 | 102017_BC  | 10/20/17   | 736        | 1536     | 29.09       | 7.30      | AA             | MB               | 2.7      | 0174   | 0158               |
| 05                 | 102017_BSW | 10/20/17   | 735        | 1535     | 28.76       | 3.87      | AA             | MB               | 2.7      | 511    | 0397               |
| 06                 | 102017_BNE | 10/20/17   | 737        | 1537     | 29.15       | 3.23      | AA             | MB               | 2.7      | 343    | 0586               |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev. 25-Sept-15

| Relinquished By            | Date/Time | Received By:             | Date/Time         |
|----------------------------|-----------|--------------------------|-------------------|
| <i>[Signature]</i><br>USPS | 10/25/17  | USPS<br>Kim Bailey - AAC | 10/25/17<br>11:17 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1742808  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 11/28/17  |

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1742808-01                | 111517_2SE       | AIR           | SKYKOMISH, WA              | 11/15/17 15:47                  | 11/20/17            |
| L1742808-02                | 111517_1C        | AIR           | SKYKOMISH, WA              | 11/15/17 15:45                  | 11/20/17            |
| L1742808-03                | 111517_1SE       | AIR           | SKYKOMISH, WA              | 11/15/17 15:46                  | 11/20/17            |
| L1742808-04                | 111517_BC        | AIR           | SKYKOMISH, WA              | 11/15/17 15:50                  | 11/20/17            |
| L1742808-05                | 111517_BSW       | AIR           | SKYKOMISH, WA              | 11/15/17 15:48                  | 11/20/17            |
| L1742808-06                | 111517_BNE       | AIR           | SKYKOMISH, WA              | 11/15/17 15:49                  | 11/20/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on November 3, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1742808-01: Isopropyl alcohol, trimethylsilanol, 2-butanone, hexanal, hexamethylcyclotrisiloxane, heptanal and styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1742808-01: Alpha-pinene, 1,4-dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1742808-02: Isopropyl alcohol, 1-propanol, trimethylsilanol, 2-butanone, ethyl acetate, hexanal, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1742808-02: Alpha-pinene, beta-pinene, 1,4-dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1742808-03: Isopropyl alcohol, methylene chloride, 1-propanol, trimethylsilanol, 2-butanone, tetrahydrofuran, hexanal, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1742808-03: Alpha-pinene, 1,4-dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

### Case Narrative (continued)

present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1742808-04: Trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, ethyl acetate, hexanal, hexamethylcyclotrisiloxane, heptanal, styrene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1742808-04: Alpha-pinene, 1,4-dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1742808-05: Trichlorofluoromethane, isopropyl alcohol, methylene chloride, trimethylsilanol, 2-butanone, tetrahydrofuran, hexanal, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1742808-05: Alpha-pinene, 1,4-dichlorobenzene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1742808-06: Acetone, isopropyl alcohol, 1-propanol, trimethylsilanol, 2-butanone, ethyl acetate, hexanal, hexamethylcyclotrisiloxane, heptanal, styrene and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1742808-06: Alpha-pinene, beta-pinene, limonene, nonanal, decanal and unknown siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

**Case Narrative (continued)**

of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 11/28/17

**AIR**

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

### SAMPLE RESULTS

Lab ID: L1742808-01  
 Client ID: 111517\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 11/25/17 17:14  
 Analyst: MB

Date Collected: 11/15/17 15:47  
 Date Received: 11/20/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.024   | 0.020 | --  | 0.053   | 0.044 | --  |           | 1               |
| Benzene   | 0.468   | 0.100 | --  | 1.50    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1742808**Project Number:** 683-057**Report Date:** 11/28/17**SAMPLE RESULTS**

Lab ID: L1742808-02  
 Client ID: 111517\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 11/25/17 17:47  
 Analyst: MB

Date Collected: 11/15/17 15:45  
 Date Received: 11/20/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.025   | 0.020 | --  | 0.055   | 0.044 | --  |           | 1               |
| Benzene   | 0.389   | 0.100 | --  | 1.24    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.203   | 0.050 | --  | 1.06    | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 90         |           | 60-140              |
| chlorobenzene-d5    | 86         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1742808**Project Number:** 683-057**Report Date:** 11/28/17**SAMPLE RESULTS**

**Lab ID:** L1742808-03  
**Client ID:** 111517\_1SE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 11/25/17 18:52  
**Analyst:** MB

**Date Collected:** 11/15/17 15:46  
**Date Received:** 11/20/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.320   | 0.100 | --  | 1.02    | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.346   | 0.050 | --  | 1.81    | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

### SAMPLE RESULTS

Lab ID: L1742808-04  
 Client ID: 111517\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 11/25/17 19:24  
 Analyst: MB

Date Collected: 11/15/17 15:50  
 Date Received: 11/20/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.020   | 0.020 | --  | 0.044   | 0.044 | --  |           | 1               |
| Benzene   | 0.272   | 0.100 | --  | 0.869   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 86         |           | 60-140              |
| bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1742808**Project Number:** 683-057**Report Date:** 11/28/17**SAMPLE RESULTS**

**Lab ID:** L1742808-05  
**Client ID:** 111517\_BSW  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 11/25/17 19:57  
**Analyst:** MB

**Date Collected:** 11/15/17 15:48  
**Date Received:** 11/20/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.264   | 0.100 | --  | 0.843   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



**Project Name:** SKYKOMISH**Lab Number:** L1742808**Project Number:** 683-057**Report Date:** 11/28/17**SAMPLE RESULTS**

**Lab ID:** L1742808-06  
**Client ID:** 111517\_BNE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 11/25/17 20:29  
**Analyst:** MB

**Date Collected:** 11/15/17 15:49  
**Date Received:** 11/20/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.047   | 0.020 | --  | 0.104   | 0.044 | --  |           | 1               |
| Benzene   | 0.309   | 0.100 | --  | 0.987   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 78         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/25/17 13:45

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1066128-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/25/17 13:45

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1066128-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/25/17 13:45

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1066128-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/25/17 13:45

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1066128-4 |         |       |     |         |       |     |           |                 |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|-----------|------|-----------|------|---------------------|-----|------|---------------|
|  | %Recovery | Qual | %Recovery | Qual |                     |     |      |               |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1066128-3 |           |      |           |      |                     |     |      |               |
| Propylene  | 86        |      | -         |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 74        |      | -         |      | 70-130              | -   |      | 25            |
| Chloromethane  | 81        |      | -         |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 98        |      | -         |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 91        |      | -         |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 92        |      | -         |      | 70-130              | -   |      | 25            |
| Bromomethane   | 100       |      | -         |      | 70-130              | -   |      | 25            |
| Chloroethane   | 89        |      | -         |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 97        |      | -         |      | 70-130              | -   |      | 25            |
| Acetone  | 93        |      | -         |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 108       |      | -         |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 92        |      | -         |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 85        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 95        |      | -         |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 80        |      | -         |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 93        |      | -         |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 88        |      | -         |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 86        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 99        |      | -         |      | 70-130              | -   |      | 25            |
| Halothane  | 113       |      | -         |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 92        |      | -         |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 98        |      | -         |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether  | 93        |      | -         |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

| Parameter  | LCS       | Qual | LCS       | Qual | %Recovery | RPD | Qual | RPD    |
|--|-----------|------|-----------|------|-----------|-----|------|--------|
|  | %Recovery |      | %Recovery |      | Limits    |     |      | Limits |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1066128-3 |           |      |           |      |           |     |      |        |
| Vinyl acetate  | 97        |      | -         |      | 70-130    | -   |      | 25     |
| 2-Butanone   | 88        |      | -         |      | 70-130    | -   |      | 25     |
| cis-1,2-Dichloroethene   | 93        |      | -         |      | 70-130    | -   |      | 25     |
| Ethyl Acetate  | 99        |      | -         |      | 70-130    | -   |      | 25     |
| Chloroform   | 102       |      | -         |      | 70-130    | -   |      | 25     |
| Tetrahydrofuran  | 84        |      | -         |      | 70-130    | -   |      | 25     |
| 1,2-Dichloroethane   | 97        |      | -         |      | 70-130    | -   |      | 25     |
| n-Hexane   | 82        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1,1-Trichloroethane  | 98        |      | -         |      | 70-130    | -   |      | 25     |
| Benzene  | 90        |      | -         |      | 70-130    | -   |      | 25     |
| Carbon tetrachloride   | 101       |      | -         |      | 70-130    | -   |      | 25     |
| Cyclohexane  | 85        |      | -         |      | 70-130    | -   |      | 25     |
| Dibromomethane <sup>1</sup>  | 83        |      | -         |      | 70-130    | -   |      | 25     |
| 1,2-Dichloropropane  | 91        |      | -         |      | 70-130    | -   |      | 25     |
| Bromodichloromethane   | 97        |      | -         |      | 70-130    | -   |      | 25     |
| 1,4-Dioxane  | 95        |      | -         |      | 70-130    | -   |      | 25     |
| Trichloroethene  | 96        |      | -         |      | 70-130    | -   |      | 25     |
| 2,2,4-Trimethylpentane   | 88        |      | -         |      | 70-130    | -   |      | 25     |
| cis-1,3-Dichloropropene  | 97        |      | -         |      | 70-130    | -   |      | 25     |
| 4-Methyl-2-pentanone   | 92        |      | -         |      | 70-130    | -   |      | 25     |
| trans-1,3-Dichloropropene  | 83        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1,2-Trichloroethane  | 102       |      | -         |      | 70-130    | -   |      | 25     |
| Toluene  | 90        |      | -         |      | 70-130    | -   |      | 25     |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

| Parameter  | LCS       |      | LCSD      |      | %Recovery Limits | RPD | RPD  |        |
|--|-----------|------|-----------|------|------------------|-----|------|--------|
|  | %Recovery | Qual | %Recovery | Qual |                  |     | Qual | Limits |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1066128-3 |           |      |           |      |                  |     |      |        |
| 2-Hexanone   | 86        |      | -         |      | 70-130           | -   |      | 25     |
| Dibromochloromethane   | 103       |      | -         |      | 70-130           | -   |      | 25     |
| 1,2-Dibromoethane  | 98        |      | -         |      | 70-130           | -   |      | 25     |
| Tetrachloroethene  | 99        |      | -         |      | 70-130           | -   |      | 25     |
| 1,1,1,2-Tetrachloroethane  | 97        |      | -         |      | 70-130           | -   |      | 25     |
| Chlorobenzene  | 103       |      | -         |      | 70-130           | -   |      | 25     |
| Ethylbenzene   | 99        |      | -         |      | 70-130           | -   |      | 25     |
| p/m-Xylene   | 99        |      | -         |      | 70-130           | -   |      | 25     |
| Bromoform  | 113       |      | -         |      | 70-130           | -   |      | 25     |
| Styrene  | 100       |      | -         |      | 70-130           | -   |      | 25     |
| 1,1,2,2-Tetrachloroethane  | 103       |      | -         |      | 70-130           | -   |      | 25     |
| o-Xylene   | 99        |      | -         |      | 70-130           | -   |      | 25     |
| 1,2,3-Trichloropropane <sup>1</sup>  | 95        |      | -         |      | 70-130           | -   |      | 25     |
| Isopropylbenzene   | 98        |      | -         |      | 70-130           | -   |      | 25     |
| Bromobenzene <sup>1</sup>  | 93        |      | -         |      | 70-130           | -   |      | 25     |
| 4-Ethyltoluene   | 100       |      | -         |      | 70-130           | -   |      | 25     |
| 1,3,5-Trimethylbenzene   | 103       |      | -         |      | 70-130           | -   |      | 25     |
| 1,2,4-Trimethylbenzene   | 106       |      | -         |      | 70-130           | -   |      | 25     |
| Benzyl chloride  | 94        |      | -         |      | 70-130           | -   |      | 25     |
| 1,3-Dichlorobenzene  | 109       |      | -         |      | 70-130           | -   |      | 25     |
| 1,4-Dichlorobenzene  | 108       |      | -         |      | 70-130           | -   |      | 25     |
| sec-Butylbenzene   | 97        |      | -         |      | 70-130           | -   |      | 25     |
| p-Isopropyltoluene   | 90        |      | -         |      | 70-130           | -   |      | 25     |

## Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1742808

Report Date: 11/28/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1066128-3 |                  |      |                   |      |                     |     |      |               |
| 1,2-Dichlorobenzene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 115              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1742808

Report Date: 11/28/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1066128-5 QC Sample: L1742808-02 Client ID: 111517_1C |               |                  |       |     |      |            |
| 1,3-Butadiene  | 0.025         | 0.025            | ppbV  | 0   |      | 25         |
| Benzene  | 0.389         | 0.413            | ppbV  | 6   |      | 25         |
| Naphthalene  | 0.203         | 0.218            | ppbV  | 7   |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

## SAMPLE RESULTS

Lab ID: L1742808-01  
 Client ID: 111517\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 11/25/17 17:14  
 Analyst: MB

Date Collected: 11/15/17 15:47  
 Date Received: 11/20/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.5    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 660    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 13     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.5    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 6.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.9    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

**SAMPLE RESULTS**

Lab ID: L1742808-02  
 Client ID: 111517\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 11/25/17 17:47  
 Analyst: MB

Date Collected: 11/15/17 15:45  
 Date Received: 11/20/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.3    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 660    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 10     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 1.2    |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 4.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | 1.2    |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 11     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 50-200              |
| Bromochloromethane  | 89         |           | 50-200              |
| Chlorobenzene-d5    | 85         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

**SAMPLE RESULTS**

Lab ID: L1742808-03  
 Client ID: 111517\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 11/25/17 18:52  
 Analyst: MB

Date Collected: 11/15/17 15:46  
 Date Received: 11/20/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 130    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 7.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | 2.1    |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

**SAMPLE RESULTS**

Lab ID: L1742808-04  
 Client ID: 111517\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 11/25/17 19:24  
 Analyst: MB

Date Collected: 11/15/17 15:50  
 Date Received: 11/20/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.94   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 130    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.5    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 82         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

## SAMPLE RESULTS

Lab ID: L1742808-05  
 Client ID: 111517\_BSW  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 11/25/17 19:57  
 Analyst: MB

Date Collected: 11/15/17 15:48  
 Date Received: 11/20/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.85   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 98     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.2    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 67     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 72         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 87         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

## SAMPLE RESULTS

Lab ID: L1742808-06  
 Client ID: 111517\_BNE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 11/25/17 20:29  
 Analyst: MB

Date Collected: 11/15/17 15:49  
 Date Received: 11/20/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.1    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 580    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.6    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.3    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 10     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 74         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 87         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1742808

Project Number: 683-057

Report Date: 11/28/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 11/25/17 13:45  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1066126-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1742808

Report Date: 11/28/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1066126-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 86               |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 87               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 97               |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 93               |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 97               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 104              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 94               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 99               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 121              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 103              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 89               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1066126-5 QC Sample: L1742808-02 Client ID: 111517_1C |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | 1.3           | 1.3              | ug/m3 | 0   |      | 30         |
| C5-C8 Aliphatics, Adjusted   | 660           | 680              | ug/m3 | 3   |      | 30         |
| Toluene  | 10            | 10               | ug/m3 | 0   |      | 30         |
| Ethylbenzene   | 1.2           | 1.2              | ug/m3 | 0   |      | 30         |
| p/m-Xylene   | 4.9           | 5.0              | ug/m3 | 2   |      | 30         |
| o-Xylene   | 1.7           | 1.6              | ug/m3 | 6   |      | 30         |
| Naphthalene  | 1.2           | 1.3              | ug/m3 | 8   |      | 30         |
| C9-C12 Aliphatics, Adjusted  | 11            | 13               | ug/m3 | 17  |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH

Project Number: 683-057

Serial\_No:11281715:31  
Lab Number: L1742808

Report Date: 11/28/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1742808-01 | 111517_2SE | 0072     | Flow 3     | 11/03/17      | 251814       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.9            | 11    |
| L1742808-01 | 111517_2SE | 322      | 2.7L Can   | 11/03/17      | 251814       | L1738687-02       | Pass           | -30.0                     | -4.3                         | -                        | -               | -              | -     |
| L1742808-02 | 111517_1C  | 0475     | Flow 5     | 11/03/17      | 251814       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.3            | 0     |
| L1742808-02 | 111517_1C  | 462      | 2.7L Can   | 11/03/17      | 251814       | L1739522-01       | Pass           | -30.0                     | -7.5                         | -                        | -               | -              | -     |
| L1742808-03 | 111517_1SE | 0962     | Flow 5     | 11/03/17      | 251814       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.5            | 5     |
| L1742808-03 | 111517_1SE | 538      | 2.7L Can   | 11/03/17      | 251814       | L1738687-02       | Pass           | -30.0                     | -5.2                         | -                        | -               | -              | -     |
| L1742808-04 | 111517_BC  | 0266     | Flow 5     | 11/03/17      | 251814       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.8            | 11    |
| L1742808-04 | 111517_BC  | 399      | 2.7L Can   | 11/03/17      | 251814       | L1737598-02       | Pass           | -30.0                     | -4.9                         | -                        | -               | -              | -     |
| L1742808-05 | 111517_BSW | 0340     | Flow 5     | 11/03/17      | 251814       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.4            | 0     |
| L1742808-05 | 111517_BSW | 364      | 2.7L Can   | 11/03/17      | 251814       | L1738687-02       | Pass           | -30.0                     | -6.0                         | -                        | -               | -              | -     |
| L1742808-06 | 111517_BNE | 0328     | Flow 5     | 11/03/17      | 251814       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.8            | 6     |
| L1742808-06 | 111517_BNE | 125      | 2.7L Can   | 11/03/17      | 251814       | L1738687-02       | Pass           | -30.0                     | -4.4                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737598  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1737598-02  
 Client ID: CAN 2020 SHELF 5  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/18/17 20:03  
 Analyst: RY

Date Collected: 10/17/17 16:00  
 Date Received: 10/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737598  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1737598-02 Date Collected: 10/17/17 16:00  
 Client ID: CAN 2020 SHELF 5 Date Received: 10/18/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737598  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1737598-02 Date Collected: 10/17/17 16:00  
 Client ID: CAN 2020 SHELF 5 Date Received: 10/18/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737598  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1737598-02  
 Client ID: CAN 2020 SHELF 5  
 Sample Location:

Date Collected: 10/17/17 16:00  
 Date Received: 10/18/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1737598**Project Number:** CANISTER QC BAT**Report Date:** 11/28/17**Air Canister Certification Results**

Lab ID: L1737598-02

Date Collected: 10/17/17 16:00

Client ID: CAN 2020 SHELF 5

Date Received: 10/18/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 74         |           | 60-140              |
| Bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 72         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737598  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1737598-02  
 Client ID: CAN 2020 SHELF 5  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/18/17 20:03  
 Analyst: MB

Date Collected: 10/17/17 16:00  
 Date Received: 10/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737598  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1737598-02 Date Collected: 10/17/17 16:00  
 Client ID: CAN 2020 SHELF 5 Date Received: 10/18/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1737598  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1737598-02  
 Client ID: CAN 2020 SHELF 5  
 Sample Location:

Date Collected: 10/17/17 16:00  
 Date Received: 10/18/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 74         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02  
 Client ID: CAN 459 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/25/17 21:34  
 Analyst: RY

Date Collected: 10/24/17 16:00  
 Date Received: 10/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02  
 Client ID: CAN 459 SHELF 7  
 Sample Location:

Date Collected: 10/24/17 16:00  
 Date Received: 10/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02  
 Client ID: CAN 459 SHELF 7  
 Sample Location:

Date Collected: 10/24/17 16:00  
 Date Received: 10/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02  
 Client ID: CAN 459 SHELF 7  
 Sample Location:

Date Collected: 10/24/17 16:00  
 Date Received: 10/25/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02 Date Collected: 10/24/17 16:00  
 Client ID: CAN 459 SHELF 7 Date Received: 10/25/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 72         |           | 60-140              |
| Bromochloromethane  | 82         |           | 60-140              |
| chlorobenzene-d5    | 74         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02  
 Client ID: CAN 459 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/25/17 21:34  
 Analyst: RY

Date Collected: 10/24/17 16:00  
 Date Received: 10/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02  
 Client ID: CAN 459 SHELF 7  
 Sample Location:

Date Collected: 10/24/17 16:00  
 Date Received: 10/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1738687  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1738687-02  
 Client ID: CAN 459 SHELF 7  
 Sample Location:

Date Collected: 10/24/17 16:00  
 Date Received: 10/25/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 83         |           | 60-140              |
| chlorobenzene-d5    | 79         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1739522  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1739522-01  
 Client ID: CAN 545 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/31/17 16:17  
 Analyst: RY

Date Collected: 10/30/17 16:00  
 Date Received: 10/31/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1739522  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1739522-01 Date Collected: 10/30/17 16:00  
 Client ID: CAN 545 SHELF 8 Date Received: 10/31/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1739522  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1739522-01 Date Collected: 10/30/17 16:00  
 Client ID: CAN 545 SHELF 8 Date Received: 10/31/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1739522  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1739522-01  
 Client ID: CAN 545 SHELF 8  
 Sample Location:

Date Collected: 10/30/17 16:00  
 Date Received: 10/31/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1739522**Project Number:** CANISTER QC BAT**Report Date:** 11/28/17**Air Canister Certification Results**

Lab ID: L1739522-01

Date Collected: 10/30/17 16:00

Client ID: CAN 545 SHELF 8

Date Received: 10/31/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 88         |           | 60-140              |
| Bromochloromethane  | 89         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1739522  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1739522-01  
 Client ID: CAN 545 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/31/17 16:17  
 Analyst: RY

Date Collected: 10/30/17 16:00  
 Date Received: 10/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1739522  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1739522-01  
 Client ID: CAN 545 SHELF 8  
 Sample Location:

Date Collected: 10/30/17 16:00  
 Date Received: 10/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1739522  
**Report Date:** 11/28/17

### Air Canister Certification Results

Lab ID: L1739522-01  
 Client ID: CAN 545 SHELF 8  
 Sample Location:

Date Collected: 10/30/17 16:00  
 Date Received: 10/31/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 88         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1737598**Project Number:** CANISTER QC BAT**Report Date:** 11/28/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1737598-02  
**Client ID:** CAN 2020 SHELF 5  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 10/18/17 20:03  
**Analyst:** RY

**Date Collected:** 10/17/17 16:00  
**Date Received:** 10/18/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1738687**Project Number:** CANISTER QC BAT**Report Date:** 11/28/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1738687-02  
**Client ID:** CAN 459 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 10/25/17 21:34  
**Analyst:** RY

**Date Collected:** 10/24/17 16:00  
**Date Received:** 10/25/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1739522**Project Number:** CANISTER QC BAT**Report Date:** 11/28/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1739522-01  
**Client ID:** CAN 545 SHELF 8  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 10/31/17 16:17  
**Analyst:** RY

**Date Collected:** 10/30/17 16:00  
**Date Received:** 10/31/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1742808-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1742808-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1742808-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1742808-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1742808-05A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1742808-06A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1742808  
**Report Date:** 11/28/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE OF



CHAIN OF CUSTODY

## Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

## Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)  
*Standard Turn-around*  
 Date Due: Time:

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

## Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Phone: 425-295-0800  
 Fax: 425-295-0850

Email: avining@farallonconsulting.com

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments:  
 Project-Specific Target Compound List  
 3-DAY TURNAROUND  
 SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 11/20/17

ALPHA Job #: L742808

## Report/Data Deliverables Information

FAX  EMAIL  
 ADEX  Add'l Deliverables

## Billing Information

Same as Client Info PO #:

## Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |

## Analysis

| TO-15                    | TO-15 SIM                           | APH Subtract non-petroleum HCs | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |
|--------------------------|-------------------------------------|--------------------------------|--------------------------|--------------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/>       |                                     |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 |                          |                          | Sample Specific Comments (i.e. PID) |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|-------------------------------------|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                          |                          |                                     |
| 42808.01           | 111517_2SE | 11/15/17   | 747        | 1547     | 29.20       | 3.24      | AA             | MB               | 2.7      | 322    | 0072               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 02                 | 111517_1C  | 11/15/17   | 745        | 1545     | 28.86       | 6.07      | AA             | MB               | 2.7      | 0462   | 0475               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 03                 | 111517_1SE | 11/15/17   | 746        | 1546     | 29.25       | 4.38      | AA             | MB               | 2.7      | 538    | 0266               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 04                 | 111517_BC  | 11/15/17   | 750        | 1550     | 28.75       | 3.77      | AA             | MB               | 2.7      | 319    | 0962               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 05                 | 111517_BSW | 11/15/17   | 748        | 1548     | 28.97       | 4.82      | AA             | MB               | 2.7      | 364    | 0340               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |
| 06                 | 111517_BNE | 11/15/17   | 749        | 1549     | 28.93       | 2.92      | AA             | MB               | 2.7      | 125    | 0328               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/> | <input type="checkbox"/> |                                     |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (1) Rev: 25-Sept-15

| Relinquished By            | Date/Time | Received By:             | Date/Time      |
|----------------------------|-----------|--------------------------|----------------|
| <i>[Signature]</i><br>USPS | 11/16/17  | USPS<br>Kim Bailey - AAL | 11/20/17 13:30 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1745523  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 12/14/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1745523-01                | 120617_2SE       | AIR           | SKYKOMISH, WA              | 12/06/17 15:20                  | 12/11/17            |
| L1745523-02                | 120617_1C        | AIR           | SKYKOMISH, WA              | 12/06/17 15:10                  | 12/11/17            |
| L1745523-03                | 120617_1SE       | AIR           | SKYKOMISH, WA              | 12/06/17 15:11                  | 12/11/17            |
| L1745523-04                | 120617_BC        | AIR           | SKYKOMISH, WA              | 12/06/17 13:20                  | 12/11/17            |
| L1745523-05                | 120617_BSW       | AIR           | SKYKOMISH, WA              | 12/06/17 15:14                  | 12/11/17            |
| L1745523-06                | 120617_BNE       | AIR           | SKYKOMISH, WA              | 12/06/17 15:15                  | 12/11/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on December 4, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1745523-01: Acetone, Isopropyl Alcohol, and siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1745523-01: Multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1745523-02, -03, -04, and -06: Acetone, Isopropyl Alcohol, and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1745523-02, -03, -04, and -06: D-Limonene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1745523-05: Acetone, Isopropyl Alcohol, 4-methyl-2-pentanone and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1745523-05: D-Limonene and multiple siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 12/14/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1745523**Project Number:** 683-057**Report Date:** 12/14/17**SAMPLE RESULTS**

**Lab ID:** L1745523-01  
**Client ID:** 120617\_2SE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 12/12/17 17:35  
**Analyst:** RY

**Date Collected:** 12/06/17 15:20  
**Date Received:** 12/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.022   | 0.020 | --  | 0.049   | 0.044 | --  |           | 1               |
| Benzene   | 0.384   | 0.100 | --  | 1.23    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 76         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 79         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1745523**Project Number:** 683-057**Report Date:** 12/14/17**SAMPLE RESULTS**

**Lab ID:** L1745523-02  
**Client ID:** 120617\_1C  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 12/12/17 18:44  
**Analyst:** RY

**Date Collected:** 12/06/17 15:10  
**Date Received:** 12/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.027   | 0.020 | --  | 0.060   | 0.044 | --  |           | 1               |
| Benzene   | 0.352   | 0.100 | --  | 1.12    | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 77         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 82         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1745523**Project Number:** 683-057**Report Date:** 12/14/17**SAMPLE RESULTS**

**Lab ID:** L1745523-03  
**Client ID:** 120617\_1SE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 12/12/17 19:18  
**Analyst:** RY

**Date Collected:** 12/06/17 15:11  
**Date Received:** 12/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.024   | 0.020 | --  | 0.053   | 0.044 | --  |           | 1               |
| Benzene   | 0.262   | 0.100 | --  | 0.837   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 84         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1745523**Project Number:** 683-057**Report Date:** 12/14/17**SAMPLE RESULTS**

**Lab ID:** L1745523-04  
**Client ID:** 120617\_BC  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 12/12/17 19:53  
**Analyst:** RY

**Date Collected:** 12/06/17 13:20  
**Date Received:** 12/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.028   | 0.020 | --  | 0.062   | 0.044 | --  |           | 1               |
| Benzene   | 0.250   | 0.100 | --  | 0.799   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1745523**Project Number:** 683-057**Report Date:** 12/14/17**SAMPLE RESULTS**

**Lab ID:** L1745523-05  
**Client ID:** 120617\_BSW  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 12/12/17 20:28  
**Analyst:** RY

**Date Collected:** 12/06/17 15:14  
**Date Received:** 12/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.026   | 0.020 | --  | 0.058   | 0.044 | --  |           | 1               |
| Benzene   | 0.215   | 0.100 | --  | 0.687   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 74         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 79         |           | 60-140              |



**Project Name:** SKYKOMISH HWF**Lab Number:** L1745523**Project Number:** 683-057**Report Date:** 12/14/17**SAMPLE RESULTS**

**Lab ID:** L1745523-06  
**Client ID:** 120617\_BNE  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 12/12/17 21:03  
**Analyst:** RY

**Date Collected:** 12/06/17 15:15  
**Date Received:** 12/11/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | 0.031   | 0.020 | --  | 0.069   | 0.044 | --  |           | 1               |
| Benzene   | 0.240   | 0.100 | --  | 0.767   | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 74         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 81         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 12/12/17 12:49

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1071755-4 |         |       |     |         |       |     |           |                 |
| Propylene   | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane   | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane  | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane  | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol   | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide   | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane  | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol  | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol  | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride  | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene   | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide  | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane   | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether   | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate   | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 12/12/17 12:49

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1071755-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene  | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate   | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane  | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane  | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride  | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane   | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane  | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane   | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane  | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane   | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene   | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane  | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone  | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene   | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane   | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane  | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 12/12/17 12:49

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1071755-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane   | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene   | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene  | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform   | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane   | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane  | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene  | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene  | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride   | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene   | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 12/12/17 12:49

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1071755-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene  | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene   | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1071755-3 |                  |      |                   |      |                     |     |      |               |
| Propylene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1071755-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran  | 79               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride   | 121              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane   | 115              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane   | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane  | 113              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1071755-3 |                  |      |                   |      |                     |     |      |               |
| Toluene  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone   | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane   | 125              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane  | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene  | 113              |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene   | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform  | 124              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane  | 127              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene   | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>  | 114              |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>  | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene   | 126              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene   | 122              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene   | 133              | Q    | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride  | 129              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene  | 138              | Q    | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene  | 135              | Q    | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene   | 121              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1745523

Report Date: 12/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1071755-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene  | 136              | Q    | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene   | 118              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene   | 154              | Q    | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene  | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene   | 133              | Q    | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene  | 147              | Q    | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1745523

Report Date: 12/14/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1071755-5 QC Sample: L1745523-01 Client ID: 120617_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | 0.022         | 0.023            | ppbV  | 4   |      | 25         |
| Benzene   | 0.384         | 0.395            | ppbV  | 3   |      | 25         |
| Naphthalene   | ND            | ND               | ppbV  | NC  |      | 25         |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

**SAMPLE RESULTS**

Lab ID: L1745523-01  
 Client ID: 120617\_2SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 12/12/17 17:35  
 Analyst: RY

Date Collected: 12/06/17 15:20  
 Date Received: 12/11/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.3    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 65     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 6.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 77         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 81         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

**SAMPLE RESULTS**

Lab ID: L1745523-02  
 Client ID: 120617\_1C  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 12/12/17 18:44  
 Analyst: RY

Date Collected: 12/06/17 15:10  
 Date Received: 12/11/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 1.2    |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 48     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 79         |           | 50-200              |
| Bromochloromethane  | 93         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

**SAMPLE RESULTS**

Lab ID: L1745523-03  
 Client ID: 120617\_1SE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 12/12/17 19:18  
 Analyst: RY

Date Collected: 12/06/17 15:11  
 Date Received: 12/11/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.90   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 29     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.8    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 78         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 83         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

**SAMPLE RESULTS**

Lab ID: L1745523-04  
 Client ID: 120617\_BC  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 12/12/17 19:53  
 Analyst: RY

Date Collected: 12/06/17 13:20  
 Date Received: 12/11/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.77   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 25     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.1    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 75         |           | 50-200              |
| Bromochloromethane  | 86         |           | 50-200              |
| Chlorobenzene-d5    | 80         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

**SAMPLE RESULTS**

Lab ID: L1745523-05  
 Client ID: 120617\_BSW  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 12/12/17 20:28  
 Analyst: RY

Date Collected: 12/06/17 15:14  
 Date Received: 12/11/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.72   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 12     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 2.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.1    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 76         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 79         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

**SAMPLE RESULTS**

Lab ID: L1745523-06  
 Client ID: 120617\_BNE  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 12/12/17 21:03  
 Analyst: RY

Date Collected: 12/06/17 15:15  
 Date Received: 12/11/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.88   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 23     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.9    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.4    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 77         |           | 50-200              |
| Bromochloromethane  | 87         |           | 50-200              |
| Chlorobenzene-d5    | 81         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 12/12/17 12:13  
 Analyst: RY

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1071751-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

| Parameter  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1071751-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene  | 108              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether  | 94               |      | -                 |      | 70-130              | -   |      |               |
| Benzene  | 103              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted   | 113              |      | -                 |      | 70-130              | -   |      |               |
| Toluene  | 98               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene   | 101              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene   | 106              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene   | 112              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene  | 143              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted  | 125              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total   | 101              |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1745523

Report Date: 12/14/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1071751-5 QC Sample: L1745523-01 Client ID: 120617_2SE |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 1.3           | 1.4              | ug/m3 | 7   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 65            | 66               | ug/m3 | 2   |      | 30         |
| Toluene   | 6.4           | 6.9              | ug/m3 | 8   |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 2.8           | 3.0              | ug/m3 | 7   |      | 30         |
| o-Xylene  | ND            | 0.91             | ug/m3 | NC  |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: SKYKOMISH HWF

Serial\_No:12141715:46  
Lab Number: L1745523

Project Number: 683-057

Report Date: 12/14/17

### Canister and Flow Controller Information

| Samplenum   | Client ID  | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1745523-01 | 120617_2SE | 0531     | Flow 5     | 12/04/17      | 251815       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.6            | 4     |
| L1745523-01 | 120617_2SE | 2296     | 2.7L Can   | 12/04/17      | 251815       | L1743789-01       | Pass           | -30.0                     | -5.2                         | -                        | -               | -              | -     |
| L1745523-02 | 120617_1C  | 0594     | Flow 5     | 12/04/17      | 251815       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.8            | 25    |
| L1745523-02 | 120617_1C  | 2243     | 2.7L Can   | 12/04/17      | 251815       | L1743789-01       | Pass           | -30.0                     | -2.2                         | -                        | -               | -              | -     |
| L1745523-03 | 120617_1SE | 0398     | Flow 5     | 12/04/17      | 251815       |                   | -              | -                         | -                            | Pass                     | 4.5             | 5.1            | 13    |
| L1745523-03 | 120617_1SE | 236      | 2.7L Can   | 12/04/17      | 251815       | L1743789-01       | Pass           | -30.0                     | -3.8                         | -                        | -               | -              | -     |
| L1745523-04 | 120617_BC  | 0948     | Flow 5     | 12/04/17      | 251815       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.9            | 9     |
| L1745523-04 | 120617_BC  | 535      | 2.7L Can   | 12/04/17      | 251815       | L1743789-01       | Pass           | -30.0                     | -5.3                         | -                        | -               | -              | -     |
| L1745523-05 | 120617_BSW | 0754     | Flow 5     | 12/04/17      | 251815       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1745523-05 | 120617_BSW | 203      | 2.7L Can   | 12/04/17      | 251815       | L1743789-01       | Pass           | -30.0                     | -6.5                         | -                        | -               | -              | -     |
| L1745523-06 | 120617_BNE | 0981     | Flow 5     | 12/04/17      | 251815       |                   | -              | -                         | -                            | Pass                     | 4.4             | 4.5            | 2     |
| L1745523-06 | 120617_BNE | 412      | 2.7L Can   | 12/04/17      | 251815       | L1743789-01       | Pass           | -30.0                     | -6.2                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1743789  
**Report Date:** 12/14/17

### Air Canister Certification Results

Lab ID: L1743789-01  
 Client ID: CAN 544 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 11/30/17 18:08  
 Analyst: MB

Date Collected: 11/29/17 16:00  
 Date Received: 11/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1743789  
**Report Date:** 12/14/17

### Air Canister Certification Results

Lab ID: L1743789-01  
 Client ID: CAN 544 SHELF 9  
 Sample Location:

Date Collected: 11/29/17 16:00  
 Date Received: 11/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1743789  
**Report Date:** 12/14/17

### Air Canister Certification Results

Lab ID: L1743789-01  
 Client ID: CAN 544 SHELF 9  
 Sample Location:

Date Collected: 11/29/17 16:00  
 Date Received: 11/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1743789  
**Report Date:** 12/14/17

### Air Canister Certification Results

Lab ID: L1743789-01  
 Client ID: CAN 544 SHELF 9  
 Sample Location:

Date Collected: 11/29/17 16:00  
 Date Received: 11/30/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1743789**Project Number:** CANISTER QC BAT**Report Date:** 12/14/17**Air Canister Certification Results**

Lab ID: L1743789-01

Date Collected: 11/29/17 16:00

Client ID: CAN 544 SHELF 9

Date Received: 11/30/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 99         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1743789  
**Report Date:** 12/14/17

### Air Canister Certification Results

Lab ID: L1743789-01  
 Client ID: CAN 544 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 11/30/17 18:08  
 Analyst: MB

Date Collected: 11/29/17 16:00  
 Date Received: 11/30/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1743789  
**Report Date:** 12/14/17

### Air Canister Certification Results

Lab ID: L1743789-01  
 Client ID: CAN 544 SHELF 9  
 Sample Location:

Date Collected: 11/29/17 16:00  
 Date Received: 11/30/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1743789

Project Number: CANISTER QC BAT

Report Date: 12/14/17

## Air Canister Certification Results

Lab ID: L1743789-01

Date Collected: 11/29/17 16:00

Client ID: CAN 544 SHELF 9

Date Received: 11/30/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 101        |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1743789**Project Number:** CANISTER QC BAT**Report Date:** 12/14/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1743789-01  
**Client ID:** CAN 544 SHELF 9  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 11/30/17 18:08  
**Analyst:** MB

**Date Collected:** 11/29/17 16:00  
**Date Received:** 11/30/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH HWF

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

NA                                      Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| L1745523-01A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1745523-02A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1745523-03A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1745523-04A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1745523-05A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |
| L1745523-06A        | Canister - 2.7 Liter  | NA            | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1745523  
**Report Date:** 12/14/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE OF



## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
Address: 975 5<sup>th</sup> Avenue Northwest  
Issaquah, Washington 98027

Project #: 683-057  
Project Manager: Andrew Vining

ALPHA Quote #:

Phone: 425-295-0800  
Fax: 425-295-0850

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Email: avining@farallonconsulting.com

Date Due: Time:

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project-Specific Target Compound List  
3-DAY TURNAROUND  
SIM: BENZENE, NAPHTHALENE, 1,3 BUTADIENE

Date Rec'd in Lab: 12/11/17

ALPHA Job #: L1745523

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
|           |         |                        |

### Analysis

| TO-15                    | TO-15 SIM                           | APH Subtract non-petroleum HCs | FIXED GASES | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |
|--------------------------|-------------------------------------|--------------------------------|-------------|--------------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>       |             |                                |                                     |

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID  | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller | TO-15                    | TO-15 SIM                           | APH                                 | FIXED GASES              | Sulfides & Mercaptans by TO-15 | Sample Specific Comments (i.e. PID) |  |
|--------------------|------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|-------------------------------------|--|
|                    |            | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |                          |                                     |                                     |                          |                                |                                     |  |
| 45523-01           | 120617_2SE | 12/6/17    | 712        | 15:2     | 29.10       | 5.54      | AA             | MB               | 2.7      | 2296   | 0531               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| 02                 | 120617_1C  | 12/6/17    | 710        | 1510     | 30.02       | 2.26      | AA             | MB               | 2.7      | 2243   | 0594               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| 03                 | 120617_1SE | 12/6/17    | 711        | 1511     | 29.03       | 4.48      | AA             | MB               | 2.7      | 236    | 0398               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| 04                 | 120617_BC  | 12/6/17    | 713        | 1320     | 30.32       | 6.18      | AA             | MB               | 2.7      | 535    | 0448               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| 05                 | 120617_BSW | 12/6/17    | 714        | 1514     | 30.21       | 7.48      | AA             | MB               | 2.7      | 203    | 0754               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |
| 06                 | 120617_BNE | 12/6/17    | 715        | 1515     | 30.00       | 6.34      | AA             | MB               | 2.7      | 712    | 0981               | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>            |  |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
SV = Soil Vapor/Landfill Gas/SVE  
Other = Please Specify

Form 101-02 (1) Rev: 25-Sept-15

| Relinquished By    |  | Date/Time      | Received By:       |  | Date/Time      |
|--------------------|--|----------------|--------------------|--|----------------|
| <i>[Signature]</i> |  | 12/11/17       | USPS               |  |                |
| USPS               |  | 12/11/17 00:00 | <i>[Signature]</i> |  | 12/11/17 13:10 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms

**APPENDIX B**  
**LABORATORY ANALYTICAL REPORTS**  
**FOR SVE INFLUENT SAMPLES**

2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
Skykomish School  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington

Farallon PN: 683-067



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1722638  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | BNSF SKYKOMISH  |
| Project Number: | 683-057   |
| Report Date:    | 07/10/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1722638-01                | BASE_062917      | AIR           | SKYKOMISH, WA              | 06/29/17 15:08                  | 07/03/17            |
| L1722638-02                | FIRST_062917     | AIR           | SKYKOMISH, WA              | 06/29/17 15:10                  | 07/03/17            |
| L1722638-03                | SECOND_062917    | AIR           | SKYKOMISH, WA              | 06/29/17 15:12                  | 07/03/17            |
| L1722638-04                | SYSTEM_062917    | AIR           | SKYKOMISH, WA              | 06/29/17 08:00                  | 07/03/17            |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

### Case Narrative (continued)

#### Petroleum Hydrocarbons in Air

Canisters were released from the laboratory on June 26, 2017. The canister certification results are provided as an addendum.

L1722638-01: Acetone, isopropyl alcohol, methylene chloride, trimethylsilanol, butanal, 2-butanone, tetrahydrofuran, hexamethyldisiloxane, hexanal, hexamethylcyclotrisiloxane, heptanal, cyclohexanone and an unknown siloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1722638-01: Benzaldehyde and an unknown siloxane are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1722638-02: Acetone, isopropyl alcohol, methylene chloride, trimethylsilanol, butanal, 2-butanone, tetrahydrofuran, pentanal, hexanal, hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1722638-03: Acetone, isopropyl alcohol, methylene chloride, trimethylsilanol, butanal, 2-butanone, tetrahydrofuran, hexamethyldisiloxane, 4-methyl-2-pentanone, hexanal, and hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1722638-04: Isopropyl alcohol, trimethylsilanol, butanal, 2-butanone, chloroform, tetrahydrofuran, 4-methyl-2-pentanone, hexamethylcyclotrisiloxane and cyclohexanone are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 07/10/17

**AIR**

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

### SAMPLE RESULTS

Lab ID: L1722638-01  
 Client ID: BASE\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/07/17 23:26  
 Analyst: MB

Date Collected: 06/29/17 15:08  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 94         |           | 60-140              |
| bromochloromethane  | 99         |           | 60-140              |
| chlorobenzene-d5    | 96         |           | 60-140              |



**Project Name:** BNSF SKYKOMISH**Lab Number:** L1722638**Project Number:** 683-057**Report Date:** 07/10/17**SAMPLE RESULTS**

**Lab ID:** L1722638-02  
**Client ID:** FIRST\_062917  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/08/17 00:10  
**Analyst:** MB

**Date Collected:** 06/29/17 15:10  
**Date Received:** 07/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.184   | 0.050 | --  | 0.965   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 82         |           | 60-140              |
| bromochloromethane  | 86         |           | 60-140              |
| chlorobenzene-d5    | 83         |           | 60-140              |



**Project Name:** BNSF SKYKOMISH**Lab Number:** L1722638**Project Number:** 683-057**Report Date:** 07/10/17**SAMPLE RESULTS**

Lab ID: L1722638-03  
 Client ID: SECOND\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/08/17 00:54  
 Analyst: MB

Date Collected: 06/29/17 15:12  
 Date Received: 07/03/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.077   | 0.050 | --  | 0.404   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 93         |           | 60-140              |
| bromochloromethane  | 98         |           | 60-140              |
| chlorobenzene-d5    | 93         |           | 60-140              |



**Project Name:** BNSF SKYKOMISH**Lab Number:** L1722638**Project Number:** 683-057**Report Date:** 07/10/17**SAMPLE RESULTS**

**Lab ID:** L1722638-04  
**Client ID:** SYSTEM\_062917  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 07/08/17 01:36  
**Analyst:** MB

**Date Collected:** 06/29/17 08:00  
**Date Received:** 07/03/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.203   | 0.100 | --  | 0.649   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.088   | 0.050 | --  | 0.461   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 85         |           | 60-140              |
| bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 87         |           | 60-140              |



Project Name: BNSF SKYKOMISH

Lab Number: L1722638

Project Number: 683-057

Report Date: 07/10/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 07/07/17 16:17

| Parameter   | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1020580-4 |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene   | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** BNSF SKYKOMISH

**Project Number:** 683-057

**Lab Number:** L1722638

**Report Date:** 07/10/17

| Parameter  | <i>LCS</i><br>%Recovery | <i>Qual</i> | <i>LCSD</i><br>%Recovery | <i>Qual</i> | <i>%Recovery</i><br>Limits | <i>RPD</i> | <i>Qual</i> | <i>RPD</i><br>Limits |
|--|-------------------------|-------------|--------------------------|-------------|----------------------------|------------|-------------|----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1020580-3 |                         |             |                          |             |                            |            |             |                      |
| 1,3-Butadiene  | 89                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Benzene  | 90                      |             | -                        |             | 70-130                     | -          |             | 25                   |
| Naphthalene  | 127                     |             | -                        |             | 70-130                     | -          |             | 25                   |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: BNSF SKYKOMISH

Project Number: 683-057

Lab Number: L1722638

Report Date: 07/10/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1020580-5 QC Sample: L1722638-04 Client ID: SYSTEM_062917 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | 0.203         | 0.204            | ppbV  | 0   |      | 25         |
| Naphthalene  | 0.088         | 0.088            | ppbV  | 0   |      | 25         |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**SAMPLE RESULTS**

Lab ID: L1722638-01  
 Client ID: BASE\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/07/17 23:26  
 Analyst: MB

Date Collected: 06/29/17 15:08  
 Date Received: 07/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 48     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 95         |           | 50-200              |
| Bromochloromethane  | 100        |           | 50-200              |
| Chlorobenzene-d5    | 94         |           | 50-200              |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**SAMPLE RESULTS**

Lab ID: L1722638-02  
 Client ID: FIRST\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/08/17 00:10  
 Analyst: MB

Date Collected: 06/29/17 15:10  
 Date Received: 07/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 66     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 3.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | 0.97   |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.8    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.8    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | 1.1    |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 1400   |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | 14     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 83         |           | 50-200              |
| Bromochloromethane  | 88         |           | 50-200              |
| Chlorobenzene-d5    | 82         |           | 50-200              |

Project Name: BNSF SKYKOMISH

Lab Number: L1722638

Project Number: 683-057

Report Date: 07/10/17

## SAMPLE RESULTS

Lab ID: L1722638-03  
 Client ID: SECOND\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/08/17 00:54  
 Analyst: MB

Date Collected: 06/29/17 15:12  
 Date Received: 07/03/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 32     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 2.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 1.7    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 530    |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 94         |           | 50-200              |
| Bromochloromethane  | 101        |           | 50-200              |
| Chlorobenzene-d5    | 92         |           | 50-200              |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**SAMPLE RESULTS**

Lab ID: L1722638-04  
 Client ID: SYSTEM\_062917  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 07/08/17 01:36  
 Analyst: MB

Date Collected: 06/29/17 08:00  
 Date Received: 07/03/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.79   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 98     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.5    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 3.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 380    |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 86         |           | 50-200              |
| Bromochloromethane  | 90         |           | 50-200              |
| Chlorobenzene-d5    | 86         |           | 50-200              |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 07/07/17 16:17  
Analyst: MB

| Parameter   | Result | Qualifier | Units | RL   | MDL |
|---|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-04 Batch: WG1020496-4 |        |           |       |      |     |
| 1,3-Butadiene   | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether   | ND     |           | ug/m3 | 0.70 | --  |
| Benzene   | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| Toluene   | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene  | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene  | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene   | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total  | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** BNSF SKYKOMISH

**Project Number:** 683-057

**Lab Number:** L1722638

**Report Date:** 07/10/17

| <b>Parameter</b>   | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-04 Batch: WG1020496-3 |                          |             |                           |             |                             |            |             |                       |
| 1,3-Butadiene  | 110                      |             | -                         |             | 70-130                      | -          |             |                       |
| Methyl tert butyl ether  | 111                      |             | -                         |             | 70-130                      | -          |             |                       |
| Benzene  | 111                      |             | -                         |             | 70-130                      | -          |             |                       |
| C5-C8 Aliphatics, Adjusted   | 115                      |             | -                         |             | 70-130                      | -          |             |                       |
| Toluene  | 112                      |             | -                         |             | 70-130                      | -          |             |                       |
| Ethylbenzene   | 119                      |             | -                         |             | 70-130                      | -          |             |                       |
| p/m-Xylene   | 117                      |             | -                         |             | 70-130                      | -          |             |                       |
| o-Xylene   | 129                      |             | -                         |             | 70-130                      | -          |             |                       |
| Naphthalene  | 150                      |             | -                         |             | 50-150                      | -          |             |                       |
| C9-C12 Aliphatics, Adjusted  | 120                      |             | -                         |             | 70-130                      | -          |             |                       |
| C9-C10 Aromatics Total   | 116                      |             | -                         |             | 70-130                      | -          |             |                       |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: BNSF SKYKOMISH

Project Number: 683-057

Lab Number: L1722638

Report Date: 07/10/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1020496-5 QC Sample: L1722638-04 Client ID: SYSTEM_062917 |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | 0.79          | 0.81             | ug/m3 | 3   |      | 30         |
| C5-C8 Aliphatics, Adjusted   | 98            | 99               | ug/m3 | 1   |      | 30         |
| Toluene  | 4.5           | 4.5              | ug/m3 | 0   |      | 30         |
| Ethylbenzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene   | 3.0           | 3.0              | ug/m3 | 0   |      | 30         |
| o-Xylene   | 1.0           | 1.1              | ug/m3 | 10  |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | 380           | 380              | ug/m3 | 0   |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

Project Name: BNSF SKYKOMISH

Project Number: 683-057

Serial\_No:07101714:33  
Lab Number: L1722638

Report Date: 07/10/17

### Canister and Flow Controller Information

| Samplenum   | Client ID     | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|---------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1722638-01 | BASE_062917   | 0447     | Flow 5     | 06/26/17      | 243088       |                   | -              | -                         | -                            | Pass                     | 4.3             | 4.4            | 2     |
| L1722638-01 | BASE_062917   | 129      | 2.7L Can   | 06/26/17      | 243088       | L1720917-01       | Pass           | -29.5                     | -8.2                         | -                        | -               | -              | -     |
| L1722638-02 | FIRST_062917  | 0788     | Flow 5     | 06/26/17      | 243088       |                   | -              | -                         | -                            | Pass                     | 4.4             | 5.0            | 13    |
| L1722638-02 | FIRST_062917  | 2213     | 2.7L Can   | 06/26/17      | 243088       | L1720917-01       | Pass           | -29.5                     | -8.3                         | -                        | -               | -              | -     |
| L1722638-03 | SECOND_062917 | 0458     | Flow 5     | 06/26/17      | 243088       |                   | -              | -                         | -                            | Pass                     | 4.5             | 4.6            | 2     |
| L1722638-03 | SECOND_062917 | 2297     | 2.7L Can   | 06/26/17      | 243088       | L1720917-01       | Pass           | -29.5                     | -7.3                         | -                        | -               | -              | -     |
| L1722638-04 | SYSTEM_062917 | 2220     | 2.7L Can   | 06/15/17      | 243084       | L1719570-01       | Pass           | -29.7                     | -3.8                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 06/13/17 15:26  
 Analyst: MB

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1719570**Project Number:** CANISTER QC BAT**Report Date:** 07/10/17**Air Canister Certification Results**

Lab ID: L1719570-01

Date Collected: 06/12/17 16:00

Client ID: CAN 133 SHELF 7

Date Received: 06/13/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 89         |           | 60-140              |
| Bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/13/17 15:26  
 Analyst: MB

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1719570  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1719570-01  
 Client ID: CAN 133 SHELF 7  
 Sample Location:

Date Collected: 06/12/17 16:00  
 Date Received: 06/13/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 90         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 06/21/17 18:03  
 Analyst: MB

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1720917

Project Number: CANISTER QC BAT

Report Date: 07/10/17

## Air Canister Certification Results

Lab ID: L1720917-01

Date Collected: 06/20/17 16:00

Client ID: CAN 342 SHELF 7

Date Received: 06/21/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 98         |           | 60-140              |
| Bromochloromethane  | 100        |           | 60-140              |
| chlorobenzene-d5    | 100        |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 06/21/17 18:03  
 Analyst: MB

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01 Date Collected: 06/20/17 16:00  
 Client ID: CAN 342 SHELF 7 Date Received: 06/21/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1720917  
**Report Date:** 07/10/17

### Air Canister Certification Results

Lab ID: L1720917-01  
 Client ID: CAN 342 SHELF 7  
 Sample Location:

Date Collected: 06/20/17 16:00  
 Date Received: 06/21/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 97         |           | 60-140              |
| bromochloromethane  | 98         |           | 60-140              |
| chlorobenzene-d5    | 98         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1719570**Project Number:** CANISTER QC BAT**Report Date:** 07/10/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1719570-01  
**Client ID:** CAN 133 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/13/17 15:26  
**Analyst:** MB

**Date Collected:** 06/12/17 16:00  
**Date Received:** 06/13/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1720917**Project Number:** CANISTER QC BAT**Report Date:** 07/10/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1720917-01  
**Client ID:** CAN 342 SHELF 7  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 06/21/17 15:53  
**Analyst:** RY

**Date Collected:** 06/20/17 16:00  
**Date Received:** 06/21/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: BNSF SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| L1722638-01A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1722638-02A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1722638-03A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |
| L1722638-04A        | Canister - 2.7 Liter  | N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** BNSF SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1722638  
**Report Date:** 07/10/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE 1 OF 1

Serial No: 07101714:33



## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: FARALLON  
 Address: 975 5th Ave NW  
ISSAQUAH WA 98027  
 Phone: 425 295 0800  
 Fax: 425 295 0850  
 Email: AVINING@FARALLONCONSULTING.COM

### Project Information

Project Name: BNSF SKYKOMISH  
 Project Location: SKYKOMISH WA  
 Project #: 683 057  
 Project Manager: ANDREW VINING  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)  
3 DAY TAT  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

### Report Information - Data Deliverables

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager)

### ALPHA Job #:

L1722638

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:  SIM: BENZENE, NAPTH ALENE, 1,3 BOTA DINGE

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID            | COLLECTION     |             |             |                |              | Sample Matrix* | Sampler's Initials | Can Size   | I D Can     | I D - Flow Controller | TO-15    | TO-15 SIM | APH <small>Subtract Non-petroleum HCs</small> | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|----------------------|----------------|-------------|-------------|----------------|--------------|----------------|--------------------|------------|-------------|-----------------------|----------|-----------|---|-------------|--------------------------------|----------------------------|
|                                |                      | End Date       | Start Time  | End Time    | Initial Vacuum | Final Vacuum |                |                    |            |             |                       |          |           |   |             |                                |                            |
| <u>22638.01</u>                | <u>BASE_062917</u>   | <u>6/29/17</u> | <u>0741</u> | <u>1508</u> | <u>29.44</u>   | <u>6.95</u>  | <u>AA</u>      | <u>ROL</u>         | <u>2.7</u> | <u>129</u>  | <u>0442</u>           | <u>X</u> | <u>X</u>  |   |             |                                |                            |
| <u>.02</u>                     | <u>FIRST_062917</u>  | <u>↓</u>       | <u>0743</u> | <u>1510</u> | <u>29.22</u>   | <u>7.15</u>  | <u>AA</u>      | <u>ROL</u>         | <u>↓</u>   | <u>2213</u> | <u>0718</u>           | <u>X</u> | <u>X</u>  |   |             |                                |                            |
| <u>.03</u>                     | <u>SECOND_062917</u> | <u>↓</u>       | <u>0745</u> | <u>1512</u> | <u>29.02</u>   | <u>5.93</u>  | <u>AA</u>      | <u>ROL</u>         | <u>↓</u>   | <u>2277</u> | <u>0450</u>           | <u>X</u> | <u>X</u>  |   |             |                                |                            |
| <u>.04</u>                     | <u>SYSTEM_062917</u> | <u>↓</u>       | <u>800</u>  | <u>800</u>  | <u>-</u>       | <u>4.5</u>   | <u>AA</u>      | <u>ROL</u>         | <u>↓</u>   | <u>2220</u> | <u>-</u>              | <u>X</u> | <u>X</u>  |   |             |                                |                            |

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

### Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By: [Signature] Date/Time: 6/29/17 1600  
 Received By: [Signature] Date/Time: 7/3/17 956



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1726490  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 08/04/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726490  
**Report Date:** 08/04/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b>  | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|-------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1726490-01                | SYSTEM_INF_072717 | AIR           | SKYKOMISH, WA              | 07/27/17 16:20                  | 08/01/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726490  
**Report Date:** 08/04/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726490  
**Report Date:** 08/04/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on July 21, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1726490-01: Tetrahydrofuran and multiple siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 08/04/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1726490**Project Number:** 683-057**Report Date:** 08/04/17**SAMPLE RESULTS**

**Lab ID:** L1726490-01  
**Client ID:** SYSTEM\_INF\_072717  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 08/03/17 02:16  
**Analyst:** RY

**Date Collected:** 07/27/17 16:20  
**Date Received:** 08/01/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.240   | 0.100 | --  | 0.767   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.276   | 0.050 | --  | 1.45    | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 80         |           | 60-140              |
| bromochloromethane  | 81         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/02/17 14:57

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1028224-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/02/17 14:57

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1028224-4 |         |       |     |         |       |     |           |                 |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/02/17 14:57

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1028224-4 |         |       |     |         |       |     |           |                 |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 08/02/17 14:57

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1028224-4 |         |       |     |         |       |     |           |                 |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726490

Report Date: 08/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1028224-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 77               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Methyl tert butyl ether   | 84               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1028224-3 |                  |      |                   |      |                     |     |      |               |
| Vinyl acetate   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane  | 82               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>   | 76               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Toluene   | 91               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1028224-3 |                  |      |                   |      |                     |     |      |               |
| 2-Hexanone  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| p-Isopropyltoluene  | 81               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726490

Report Date: 08/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1028224-3 |                  |      |                   |      |                     |     |      |               |
| 1,2-Dichlorobenzene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene   | 84               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726490

Report Date: 08/04/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1028224-5 QC Sample: L1726579-03 Client ID: DUP Sample |               |                  |       |     |      |            |
| Vinyl chloride   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,2-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1-Trichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon tetrachloride   | 0.065         | 0.065            | ppbV  | 0   |      | 25         |
| Trichloroethene  | 0.024         | 0.025            | ppbV  | 4   |      | 25         |
| Tetrachloroethene  | 0.136         | 0.136            | ppbV  | 0   |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

**SAMPLE RESULTS**

Lab ID: L1726490-01  
 Client ID: SYSTEM\_INF\_072717  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 08/03/17 02:16  
 Analyst: RY

Date Collected: 07/27/17 16:20  
 Date Received: 08/01/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.85   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 550    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 4.2    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.0    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | 1.7    |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 3600   |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 79         |           | 50-200              |
| Bromochloromethane  | 83         |           | 50-200              |
| Chlorobenzene-d5    | 90         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1726490

Project Number: 683-057

Report Date: 08/04/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 08/02/17 14:23  
 Analyst: RY

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01 Batch: WG1028225-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726490

Report Date: 08/04/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1028225-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene   | 108              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether   | 101              |      | -                 |      | 70-130              | -   |      |               |
| Benzene   | 102              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted  | 114              |      | -                 |      | 70-130              | -   |      |               |
| Toluene   | 101              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene  | 102              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene  | 102              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene  | 104              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene   | 111              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted   | 100              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total  | 89               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1726490

Report Date: 08/04/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1028225-5 QC Sample: L1726490-01 Client ID: SYSTEM_INF_072717 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 0.85          | 0.82             | ug/m3 | 4   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 550           | 600              | ug/m3 | 9   |      | 30         |
| Toluene   | 4.2           | 4.7              | ug/m3 | 11  |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 2.0           | 2.4              | ug/m3 | 18  |      | 30         |
| o-Xylene  | ND            | 0.90             | ug/m3 | NC  |      | 30         |
| Naphthalene   | 1.7           | 2.1              | ug/m3 | 21  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 3600          | 4000             | ug/m3 | 11  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

**Project Name:** SKYKOMISH

**Project Number:** 683-057

Serial\_No:08041715:47  
**Lab Number:** L1726490

**Report Date:** 08/04/17

### Canister and Flow Controller Information

| Samplenum   | Client ID         | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|-------------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1726490-01 | SYSTEM_INF_072717 | 109      | 2.7L Can   | 07/21/17      | 245965       | L1723410-01       | Pass           | -29.7                     | -4.2                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/11/17 16:41  
 Analyst: RY

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Acetaldehyde                             | ND      | 2.50  | --  | ND      | 4.50  | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 2.50  | --  | ND      | 4.71  | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| tert-Butyl Alcohol                       | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride                       | ND      | 1.00  | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Thiophene                                | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 2-Methylthiophene                        | ND      | 0.200 | --  | ND      | 0.803 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| 3-Methylthiophene                        | ND      | 0.200 | --  | ND      | 0.803 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 2-Ethylthiophene                         | ND      | 0.200 | --  | ND      | 0.918 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,2,3-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| Indane                                   | ND      | 0.200 | --  | ND      | 0.967 | --  |           | 1               |
| Indene                                   | ND      | 0.200 | --  | ND      | 0.951 | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| 1,2,4,5-Tetramethylbenzene               | ND      | 0.500 | --  | ND      | 2.74  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Benzothiophene                           | ND      | 0.500 | --  | ND      | 2.74  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |
| 2-Methylnaphthalene                      | ND      | 1.00  | --  | ND      | 5.82  | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01 Date Collected: 07/10/17 16:00  
 Client ID: CAN 522 SHELF 8 Date Received: 07/11/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |      |     | ug/m3   |      |     | Qualifier | Dilution Factor |
|--|---------|------|-----|---------|------|-----|-----------|-----------------|
|  | Results | RL   | MDL | Results | RL   | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |      |     |         |      |     |           |                 |
| 1-Methylnaphthalene                      | ND      | 1.00 | --  | ND      | 5.82 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 96         |           | 60-140              |
| Bromochloromethane  | 97         |           | 60-140              |
| chlorobenzene-d5    | 96         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/11/17 19:44  
 Analyst: MB

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01 Date Collected: 07/10/17 16:00  
 Client ID: CAN 522 SHELF 8 Date Received: 07/11/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 92         |           | 60-140              |
| Bromochloromethane  | 93         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/11/17 19:44  
 Analyst: MB

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723410  
**Report Date:** 08/04/17

### Air Canister Certification Results

Lab ID: L1723410-01  
 Client ID: CAN 522 SHELF 8  
 Sample Location:

Date Collected: 07/10/17 16:00  
 Date Received: 07/11/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 96         |           | 60-140              |
| bromochloromethane  | 96         |           | 60-140              |
| chlorobenzene-d5    | 94         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1723410**Project Number:** CANISTER QC BAT**Report Date:** 08/04/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1723410-01  
**Client ID:** CAN 522 SHELF 8  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/11/17 19:44  
**Analyst:** MB

**Date Collected:** 07/10/17 16:00  
**Date Received:** 07/11/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                              Present/Intact

**Container Information****Container ID**    **Container Type**

L1726490-01A    Canister - 2.7 Liter

| <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| N/A           | N/A                   | N/A                 |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726490  
**Report Date:** 08/04/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726490  
**Report Date:** 08/04/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1726490  
**Report Date:** 08/04/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# AIR ANALYSIS

PAGE 1 OF 1



**CHAIN OF CUSTODY**

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: Farallon Consulting  
 Address: 975 5th Ave North West Issaquah, WA 98027  
 Phone: 425-295-0800  
 Fax: 425-295-0850  
 Email: AVining@Farallonconsulting.com

**Project Information**

Project Name: Skykomish HWF  
 Project Location: Skykomish, WA  
 Project #: 683-057  
 Project Manager: Andrew Vining  
 ALPHA Quote #:

**Turn-Around Time**

Standard  RUSH (only confirmed if pre-approved!)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: 8/1/17

**Report Information - Data Deliverables**

FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
(Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager)

ALPHA Job #: L1726490

**Billing Information**

Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:

**All Columns Below Must Be Filled Out**

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID        | COLLECTION |            |          |                |              |       | Sample Matrix* | Sampler's Initials | Can Size | I D Can | I D - Flow Controller | ANALYSIS  |  |  |  | Sample Comments (i.e. PID) |
|--------------------------------|------------------|------------|------------|----------|----------------|--------------|-------|----------------|--------------------|----------|---------|-----------------------|-----------|--|--|--|----------------------------|
|                                |                  | End Date   | Start Time | End Time | Initial Vacuum | Final Vacuum | TO-15 |                |                    |          |         |                       | TO-15 SIM | APH<br><small>Subtract Non-petroleum HCs</small> | Fixed Gases<br><small>Sulfides &amp; Mercaptans by TO-15</small> |  |                            |
| 6490-01                        | SYSTEM_INF-07277 | 7/27/17    | 1620       | 1620     | -29.7          | -3.5         | SV    | RO             | 207                | 109      | -       | XX                    |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |
|                                |                  |            |            |          |                |              |       |                |                    |          |         |                       |           |  |  |  |                            |

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time:

Ryan Ostrom

7/28/17/1030

Brian Reed

8/1/17 10:39



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1730213  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 09/05/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

---

320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730213  
**Report Date:** 09/05/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b>  | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|-------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1730213-01                | SYSTEM_INF_082317 | AIR           | SKYKOMISH, WA              | 08/23/17 11:00                  | 08/28/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730213  
**Report Date:** 09/05/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730213  
**Report Date:** 09/05/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on August 7, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1730213-01: Acetone, trichlorofluoromethane, isopropyl alcohol, tertiary butyl alcohol, carbon disulfide, trimethylsilanol, 2-butanone, chloroform and tetrahydrofuran are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 09/05/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1730213**Project Number:** 683-057**Report Date:** 09/05/17**SAMPLE RESULTS**

**Lab ID:** L1730213-01  
**Client ID:** SYSTEM\_INF\_082317  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/02/17 22:40  
**Analyst:** MB

**Date Collected:** 08/23/17 11:00  
**Date Received:** 08/28/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.085   | 0.050 | --  | 0.446   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 79         |           | 60-140              |
| bromochloromethane  | 85         |           | 60-140              |
| chlorobenzene-d5    | 88         |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/02/17 16:03

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1038214-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/02/17 16:03

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1038214-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 09/02/17 16:03

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1038214-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/02/17 16:03

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1038214-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1038214-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene  | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

| Parameter   | LCS       | Qual | LCS       | Qual | %Recovery | RPD | Qual | RPD    |
|---|-----------|------|-----------|------|-----------|-----|------|--------|
|   | %Recovery |      | %Recovery |      | Limits    |     |      | Limits |
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1038214-3 |           |      |           |      |           |     |      |        |
| Methyl tert butyl ether   | 90        |      | -         |      | 70-130    | -   |      | 25     |
| Vinyl acetate   | 102       |      | -         |      | 70-130    | -   |      | 25     |
| 2-Butanone  | 94        |      | -         |      | 70-130    | -   |      | 25     |
| cis-1,2-Dichloroethene  | 91        |      | -         |      | 70-130    | -   |      | 25     |
| Ethyl Acetate   | 111       |      | -         |      | 70-130    | -   |      | 25     |
| Chloroform  | 95        |      | -         |      | 70-130    | -   |      | 25     |
| Tetrahydrofuran   | 91        |      | -         |      | 70-130    | -   |      | 25     |
| 1,2-Dichloroethane  | 90        |      | -         |      | 70-130    | -   |      | 25     |
| n-Hexane  | 90        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1,1-Trichloroethane   | 94        |      | -         |      | 70-130    | -   |      | 25     |
| Benzene   | 90        |      | -         |      | 70-130    | -   |      | 25     |
| Carbon tetrachloride  | 96        |      | -         |      | 70-130    | -   |      | 25     |
| Cyclohexane   | 90        |      | -         |      | 70-130    | -   |      | 25     |
| Dibromomethane <sup>1</sup>   | 79        |      | -         |      | 70-130    | -   |      | 25     |
| 1,2-Dichloropropane   | 92        |      | -         |      | 70-130    | -   |      | 25     |
| Bromodichloromethane  | 97        |      | -         |      | 70-130    | -   |      | 25     |
| 1,4-Dioxane   | 98        |      | -         |      | 70-130    | -   |      | 25     |
| Trichloroethene   | 90        |      | -         |      | 70-130    | -   |      | 25     |
| 2,2,4-Trimethylpentane  | 96        |      | -         |      | 70-130    | -   |      | 25     |
| cis-1,3-Dichloropropene   | 98        |      | -         |      | 70-130    | -   |      | 25     |
| 4-Methyl-2-pentanone  | 106       |      | -         |      | 70-130    | -   |      | 25     |
| trans-1,3-Dichloropropene   | 84        |      | -         |      | 70-130    | -   |      | 25     |
| 1,1,2-Trichloroethane   | 96        |      | -         |      | 70-130    | -   |      | 25     |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1038214-3 |                  |      |                   |      |                     |     |      |               |
| Toluene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730213

Report Date: 09/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1038214-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene   | 109              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene  | 116              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene   | 107              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730213

Report Date: 09/05/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1038214-5 QC Sample: L1730213-01 Client ID: SYSTEM_INF_082317 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Naphthalene   | 0.085         | 0.086            | ppbV  | 1   |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

## SAMPLE RESULTS

Lab ID: L1730213-01  
 Client ID: SYSTEM\_INF\_082317  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/02/17 22:40  
 Analyst: MB

Date Collected: 08/23/17 11:00  
 Date Received: 08/28/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

## Petroleum Hydrocarbons in Air - Mansfield Lab

|                             |      |  |       |      |    |   |
|-----------------------------|------|--|-------|------|----|---|
| 1,3-Butadiene               | ND   |  | ug/m3 | 0.50 | -- | 1 |
| Methyl tert butyl ether     | ND   |  | ug/m3 | 0.70 | -- | 1 |
| Benzene                     | ND   |  | ug/m3 | 0.60 | -- | 1 |
| C5-C8 Aliphatics, Adjusted  | 1100 |  | ug/m3 | 10   | -- | 1 |
| Toluene                     | 1.3  |  | ug/m3 | 0.90 | -- | 1 |
| Ethylbenzene                | ND   |  | ug/m3 | 0.90 | -- | 1 |
| p/m-Xylene                  | 1.3  |  | ug/m3 | 0.90 | -- | 1 |
| o-Xylene                    | ND   |  | ug/m3 | 0.90 | -- | 1 |
| Naphthalene                 | ND   |  | ug/m3 | 1.1  | -- | 1 |
| C9-C12 Aliphatics, Adjusted | 8000 |  | ug/m3 | 10   | -- | 1 |
| C9-C10 Aromatics Total      | ND   |  | ug/m3 | 10   | -- | 1 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 80         |           | 50-200              |
| Bromochloromethane  | 85         |           | 50-200              |
| Chlorobenzene-d5    | 88         |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1730213

Project Number: 683-057

Report Date: 09/05/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 09/02/17 15:30  
 Analyst: RY

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01 Batch: WG1038211-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730213

Report Date: 09/05/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1038211-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene   | 113              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether   | 94               |      | -                 |      | 70-130              | -   |      |               |
| Benzene   | 104              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted  | 102              |      | -                 |      | 70-130              | -   |      |               |
| Toluene   | 103              |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene  | 103              |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene  | 107              |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene  | 112              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene   | 131              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted   | 118              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total  | 97               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1730213

Report Date: 09/05/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1038211-5 QC Sample: L1730657-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted   | 300           | 310              | ug/m3 | 3   |      | 30         |
| Toluene  | 3.0           | 3.1              | ug/m3 | 3   |      | 30         |
| Ethylbenzene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| o-Xylene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | 16            | 14               | ug/m3 | 13  |      | 30         |
| C9-C10 Aromatics Total   | ND            | ND               | ug/m3 | NC  |      | 30         |

**Project Name:** SKYKOMISH

**Project Number:** 683-057

Serial\_No:09051714:53  
**Lab Number:** L1730213

**Report Date:** 09/05/17

### Canister and Flow Controller Information

| Samplenum   | Client ID         | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|-------------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1730213-01 | SYSTEM_INF_082317 | 2220     | 2.7L Can   | 08/07/17      | 243094       | L1725123-01       | Pass           | -29.7                     | -4.5                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725123  
**Report Date:** 09/05/17

### Air Canister Certification Results

Lab ID: L1725123-01  
 Client ID: CAN 2220 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/21/17 16:45  
 Analyst: RY

Date Collected: 07/20/17 16:00  
 Date Received: 07/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725123  
**Report Date:** 09/05/17

### Air Canister Certification Results

Lab ID: L1725123-01 Date Collected: 07/20/17 16:00  
 Client ID: CAN 2220 SHELF 3 Date Received: 07/21/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725123  
**Report Date:** 09/05/17

### Air Canister Certification Results

Lab ID: L1725123-01  
 Client ID: CAN 2220 SHELF 3  
 Sample Location:

Date Collected: 07/20/17 16:00  
 Date Received: 07/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725123  
**Report Date:** 09/05/17

### Air Canister Certification Results

Lab ID: L1725123-01  
 Client ID: CAN 2220 SHELF 3  
 Sample Location:

Date Collected: 07/20/17 16:00  
 Date Received: 07/21/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1725123**Project Number:** CANISTER QC BAT**Report Date:** 09/05/17**Air Canister Certification Results**

Lab ID: L1725123-01

Date Collected: 07/20/17 16:00

Client ID: CAN 2220 SHELF 3

Date Received: 07/21/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 91         |           | 60-140              |
| Bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 90         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725123  
**Report Date:** 09/05/17

### Air Canister Certification Results

Lab ID: L1725123-01  
 Client ID: CAN 2220 SHELF 3  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/21/17 16:45  
 Analyst: RY

Date Collected: 07/20/17 16:00  
 Date Received: 07/21/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1725123  
**Report Date:** 09/05/17

### Air Canister Certification Results

Lab ID: L1725123-01  
 Client ID: CAN 2220 SHELF 3  
 Sample Location:

Date Collected: 07/20/17 16:00  
 Date Received: 07/21/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride                                 | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1725123

Project Number: CANISTER QC BAT

Report Date: 09/05/17

## Air Canister Certification Results

Lab ID: L1725123-01

Date Collected: 07/20/17 16:00

Client ID: CAN 2220 SHELF 3

Date Received: 07/21/17

Sample Location:

Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 94         |           | 60-140              |
| chlorobenzene-d5    | 92         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1725123**Project Number:** CANISTER QC BAT**Report Date:** 09/05/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1725123-01  
**Client ID:** CAN 2220 SHELF 3  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/21/17 16:45  
**Analyst:** RY

**Date Collected:** 07/20/17 16:00  
**Date Received:** 07/21/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                      Absent

**Container Information****Container ID**    **Container Type**

L1730213-01A    Canister - 2.7 Liter

| <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| N/A           | N/A                   | N/A                 |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730213  
**Report Date:** 09/05/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730213  
**Report Date:** 09/05/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1730213  
**Report Date:** 09/05/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

### Project Information

Project Name: Skykomish HWF  
 Project Location: Skykomish, Washington

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Farallon Consulting  
 Address: 975 5<sup>th</sup> Avenue Northwest  
 Issaquah, Washington 98027

Project #: 683-057  
 Project Manager: Andrew Vining

ALPHA Quote #:

Phone: 425-295-0800  
 Fax: 425-295-0850

### Turn-Around-Time

Standard  Rush (only confirmed if pre-approved)

Email: avining@farallonconsulting.com

Date Due: Time:

These samples have been Previously analyzed by Alpha

### Other Project Specific Requirements/Comments:

Project Specific Target Compound List  
~~SIM: BENZENE, NAPHTHALENE, 1,3-BUTADIENE~~

Date Rec'd in Lab: 8/28/17

ALPHA Job #: L1730213

### Report/Data Deliverables Information

FAX  EMAIL  
 ADEx  Add'l Deliverables

### Billing Information

Same as Client info PO #:

### Regulatory Requirements/Report Limits

| State/Fed | Program | Residential/Commercial |
|-----------|---------|------------------------|
|           |         |                        |
| S         |         |                        |

### Analysis

| TO-15                    | TO-15 SIM                           | APH<br>Subtract non-petroleum HCs   | FIXED GASES              | Sulfides & Mercaptans by TO-15 |
|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>       |

Sample Specific Comments  
(i.e. PID)

### All Columns Below Must Be Filled Out

| Alpha Lab Use Only | Sample ID         | Collection |            |          |             |           | Sample Matrix* | Sampler Initials | Can Size | ID Can | ID Flow Controller |
|--------------------|-------------------|------------|------------|----------|-------------|-----------|----------------|------------------|----------|--------|--------------------|
|                    |                   | End Date   | Start Time | End Time | Initial Vac | Final Vac |                |                  |          |        |                    |
| 0213-01            | SYSTEM_INF_082317 | 8/23/17    | 1100       | 1100     | -29         | -5        | AA             | MB               | 2.7      | 2220   |                    |
|                    |                   |            |            |          |             |           |                |                  |          |        |                    |
|                    |                   |            |            |          |             |           |                |                  |          |        |                    |
|                    |                   |            |            |          |             |           |                |                  |          |        |                    |
|                    |                   |            |            |          |             |           |                |                  |          |        |                    |

### \*SAMPLE MATRIX CODES:

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Form 101-02 (I) Rev. 25-Sept-15

| Relinquished By            | Date/Time    | Received By:                      | Date/Time    |
|----------------------------|--------------|-----------------------------------|--------------|
| <i>[Signature]</i><br>USPS | 8/23/17 1400 | USPS<br><i>[Signature]</i> - PAAL | 8/28/17 1400 |

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1733155  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH HWF   |
| Project Number: | 683-057   |
| Report Date:    | 09/26/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b>  | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|-------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1733155-01                | SYSTEM_INF_091417 | AIR           | SKYKOMISH, WA              | 09/14/17 10:00                  | 09/19/17            |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on July 21, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1733155-01: Isopropyl Alcohol, Siloxane, 2-Butanone and Trichloromethane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 09/26/17

**AIR**

**Project Name:** SKYKOMISH HWF**Lab Number:** L1733155**Project Number:** 683-057**Report Date:** 09/26/17**SAMPLE RESULTS**

**Lab ID:** L1733155-01  
**Client ID:** SYSTEM\_INF\_091417  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/22/17 19:08  
**Analyst:** RY

**Date Collected:** 09/14/17 10:00  
**Date Received:** 09/19/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.227   | 0.100 | --  | 0.725   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.083   | 0.050 | --  | 0.435   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 91         |           | 60-140              |
| bromochloromethane  | 92         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |



Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/22/17 14:40

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1044764-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/22/17 14:40

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1044764-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/22/17 14:40

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1044764-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |



Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/22/17 14:40

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1044764-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1044764-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 74               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>   | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 95               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1044764-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>   | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane  | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane   | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene   | 110              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone  | 117              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene   | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1044764-3 |                  |      |                   |      |                     |     |      |               |
| Toluene   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone  | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 80               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 81               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 83               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene  | 87               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 86               |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 83               |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** SKYKOMISH HWF

**Project Number:** 683-057

**Lab Number:** L1733155

**Report Date:** 09/26/17

| <b>Parameter</b>  | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|---|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1044764-3 |                          |             |                           |             |                             |            |             |                       |
| p-Isopropyltoluene  | 76                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2-Dichlorobenzene   | 85                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| n-Butylbenzene  | 89                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2,4-Trichlorobenzene  | 92                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Naphthalene   | 87                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| 1,2,3-Trichlorobenzene  | 83                       |             | -                         |             | 70-130                      | -          |             | 25                    |
| Hexachlorobutadiene   | 82                       |             | -                         |             | 70-130                      | -          |             | 25                    |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733155

Report Date: 09/26/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1044764-5 QC Sample: L1733365-05 Client ID: DUP Sample |               |                  |       |     |      |            |
| Propylene  | 5.65          | 5.56             | ppbV  | 2   |      | 25         |
| Dichlorodifluoromethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloromethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Vinyl chloride   | 0.140         | 0.135            | ppbV  | 4   |      | 25         |
| 1,3-Butadiene  | ND            | 0.110            | ppbV  | NC  |      | 25         |
| Bromomethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroethane   | ND            | 0.100            | ppbV  | NC  |      | 25         |
| Ethyl Alcohol  | 71.6          | 70.7             | ppbV  | 1   |      | 25         |
| Vinyl bromide  | ND            | ND               | ppbV  | NC  |      | 25         |
| Acetone  | 628           | 625              | ppbV  | 0   |      | 25         |
| Trichlorofluoromethane   | 0.310         | 0.305            | ppbV  | 2   |      | 25         |
| iso-Propyl Alcohol   | 70.1          | 70.4             | ppbV  | 0   |      | 25         |
| 1,1-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Methylene chloride   | ND            | ND               | ppbV  | NC  |      | 25         |
| 3-Chloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon disulfide   | 3.90          | 3.78             | ppbV  | 3   |      | 25         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 33.7          | 32.4             | ppbV  | 4   |      | 25         |
| trans-1,2-Dichloroethene   | 1.60          | 1.59             | ppbV  | 1   |      | 25         |
| 1,1-Dichloroethane   | 0.310         | 0.310            | ppbV  | 0   |      | 25         |
| Methyl tert butyl ether  | 16.4          | 16.3             | ppbV  | 1   |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733155

Report Date: 09/26/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1044764-5 QC Sample: L1733365-05 Client ID: DUP Sample |               |                  |       |     |      |            |
| Vinyl acetate  | ND            | ND               | ppbV  | NC  |      | 25         |
| 2-Butanone   | 10.7          | 10.5             | ppbV  | 2   |      | 25         |
| cis-1,2-Dichloroethene   | 1.85          | 1.86             | ppbV  | 1   |      | 25         |
| Ethyl Acetate  | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroform   | 2.71          | 2.70             | ppbV  | 0   |      | 25         |
| Tetrahydrofuran  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| n-Hexane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1-Trichloroethane  | 3.88          | 3.81             | ppbV  | 2   |      | 25         |
| Benzene  | 4.18          | 4.06             | ppbV  | 3   |      | 25         |
| Carbon tetrachloride   | ND            | ND               | ppbV  | NC  |      | 25         |
| Cyclohexane  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichloropropane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Bromodichloromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,4-Dioxane  | 1.66          | 1.59             | ppbV  | 4   |      | 25         |
| Trichloroethene  | 114           | 110              | ppbV  | 4   |      | 25         |
| 2,2,4-Trimethylpentane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Heptane  | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,3-Dichloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 4-Methyl-2-pentanone   | ND            | ND               | ppbV  | NC  |      | 25         |
| trans-1,3-Dichloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1044764-5 QC Sample: L1733365-05 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,1,2-Trichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Toluene  | 209           | 202              | ppbV  | 3   |      | 25         |
| 2-Hexanone   | ND            | ND               | ppbV  | NC  |      | 25         |
| Dibromochloromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dibromoethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Tetrachloroethene  | 32.8          | 31.4             | ppbV  | 4   |      | 25         |
| Chlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethylbenzene   | 118           | 115              | ppbV  | 3   |      | 25         |
| p/m-Xylene   | 308           | 298              | ppbV  | 3   |      | 25         |
| Bromoform  | ND            | ND               | ppbV  | NC  |      | 25         |
| Styrene  | 0.275         | 0.270            | ppbV  | 2   |      | 25         |
| 1,1,1,2-Tetrachloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| o-Xylene   | 68.5          | 65.8             | ppbV  | 4   |      | 25         |
| 4-Ethyltoluene   | 9.48          | 8.36             | ppbV  | 13  |      | 25         |
| 1,3,5-Trimethylbenzene   | 5.98          | 5.70             | ppbV  | 5   |      | 25         |
| 1,2,4-Trimethylbenzene   | 13.0          | 12.2             | ppbV  | 6   |      | 25         |
| Benzyl chloride  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,3-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,4-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2,4-Trichlorobenzene   | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733155

Report Date: 09/26/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1044764-5 QC Sample: L1733365-05 Client ID: DUP Sample |               |                  |       |     |      |            |
| Naphthalene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Hexachlorobutadiene  | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH HWF

Lab Number: L1733155

Project Number: 683-057

Report Date: 09/26/17

**SAMPLE RESULTS**

Lab ID: L1733155-01  
 Client ID: SYSTEM\_INF\_091417  
 Sample Location: SKYKOMISH, WA  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 09/22/17 19:08  
 Analyst: RY

Date Collected: 09/14/17 10:00  
 Date Received: 09/19/17  
 Field Prep: Not Specified

**Quality Control Information**

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.85   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 570    |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.4    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 1.0    |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 2300   |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 81         |           | 50-200              |
| Bromochloromethane  | 91         |           | 50-200              |
| Chlorobenzene-d5    | 79         |           | 50-200              |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
Analytical Date: 09/22/17 14:40  
Analyst: RY

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01 Batch: WG1044763-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733155

Report Date: 09/26/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1044763-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene   | 128              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether   | 106              |      | -                 |      | 70-130              | -   |      |               |
| Benzene   | 113              |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted  | 120              |      | -                 |      | 70-130              | -   |      |               |
| Toluene   | 93               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene  | 95               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene  | 95               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene  | 99               |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene   | 108              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted   | 109              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total  | 81               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH HWF

Project Number: 683-057

Lab Number: L1733155

Report Date: 09/26/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1044763-5 QC Sample: L1733226-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| 1,3-Butadiene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether  | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C5-C8 Aliphatics, Adjusted   | 610000        | 620000           | ug/m3 | 2   |      | 30         |
| Toluene  | 2400          | 2300             | ug/m3 | 4   |      | 30         |
| Ethylbenzene   | 4200          | 4100             | ug/m3 | 2   |      | 30         |
| p/m-Xylene   | 13000         | 13000            | ug/m3 | 0   |      | 30         |
| o-Xylene   | 6900          | 6800             | ug/m3 | 1   |      | 30         |
| Naphthalene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted  | 360000        | 350000           | ug/m3 | 3   |      | 30         |
| C9-C10 Aromatics Total   | 41000         | 41000            | ug/m3 | 0   |      | 30         |

**Project Name:** SKYKOMISH HWF

**Project Number:** 683-057

Serial\_No:09261712:52  
**Lab Number:** L1733155

**Report Date:** 09/26/17

### Canister and Flow Controller Information

| Samplenum   | Client ID         | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|-------------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1733155-01 | SYSTEM_INF_091417 | 1804     | 2.7L Can   | 07/21/17      | 245965       | L1723625-01       | Pass           | -29.6                     | -6.6                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723625  
**Report Date:** 09/26/17

### Air Canister Certification Results

Lab ID: L1723625-01  
 Client ID: CAN 249 SHELF 4  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 07/12/17 10:50  
 Analyst: MB

Date Collected: 07/11/17 16:00  
 Date Received: 07/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723625  
**Report Date:** 09/26/17

### Air Canister Certification Results

Lab ID: L1723625-01  
 Client ID: CAN 249 SHELF 4  
 Sample Location:

Date Collected: 07/11/17 16:00  
 Date Received: 07/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723625  
**Report Date:** 09/26/17

### Air Canister Certification Results

Lab ID: L1723625-01  
 Client ID: CAN 249 SHELF 4  
 Sample Location:

Date Collected: 07/11/17 16:00  
 Date Received: 07/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723625  
**Report Date:** 09/26/17

### Air Canister Certification Results

Lab ID: L1723625-01  
 Client ID: CAN 249 SHELF 4  
 Sample Location:

Date Collected: 07/11/17 16:00  
 Date Received: 07/12/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

|                                  | Results | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|---------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |         |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1723625**Project Number:** CANISTER QC BAT**Report Date:** 09/26/17**Air Canister Certification Results**

Lab ID: L1723625-01

Date Collected: 07/11/17 16:00

Client ID: CAN 249 SHELF 4

Date Received: 07/12/17

Sample Location:

Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 84         |           | 60-140              |
| Bromochloromethane  | 87         |           | 60-140              |
| chlorobenzene-d5    | 85         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723625  
**Report Date:** 09/26/17

### Air Canister Certification Results

Lab ID: L1723625-01  
 Client ID: CAN 249 SHELF 4  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 07/12/17 10:50  
 Analyst: MB

Date Collected: 07/11/17 16:00  
 Date Received: 07/12/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723625  
**Report Date:** 09/26/17

### Air Canister Certification Results

Lab ID: L1723625-01  
 Client ID: CAN 249 SHELF 4  
 Sample Location:

Date Collected: 07/11/17 16:00  
 Date Received: 07/12/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1723625  
**Report Date:** 09/26/17

### Air Canister Certification Results

Lab ID: L1723625-01  
 Client ID: CAN 249 SHELF 4  
 Sample Location:

Date Collected: 07/11/17 16:00  
 Date Received: 07/12/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 89         |           | 60-140              |
| bromochloromethane  | 91         |           | 60-140              |
| chlorobenzene-d5    | 89         |           | 60-140              |



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1723625**Project Number:** CANISTER QC BAT**Report Date:** 09/26/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1723625-01  
**Client ID:** CAN 249 SHELF 4  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 07/12/17 10:50  
**Analyst:** MB

**Date Collected:** 07/11/17 16:00  
**Date Received:** 07/12/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

**Project Name:** SKYKOMISH HWF**Lab Number:** L1733155**Project Number:** 683-057**Report Date:** 09/26/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                      Present/Intact

**Container Information****Container ID**    **Container Type**

L1733155-01A      Canister - 2.7 Liter

| <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b>    | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------|-----------------------|---------------------|-----------------------|-------------|----------------|-----------------------------|-------------------------|
| N/A           | NA                    |                     |                       | Y           | Present/Intact |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

**Report Format:** Data Usability Report



**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH HWF  
**Project Number:** 683-057

**Lab Number:** L1733155  
**Report Date:** 09/26/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

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The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

### Client Information

Client: Ferallon Consulting  
 Address: 975 5th Ave NW  
Issaquah, WA 98027  
 Phone: 425-295-0800  
 Fax:

Email: AVining@ferallonconsulting.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List:

### Project Information

Project Name: Skykomish Hwf  
 Project Location: Skykomish, WA  
 Project #: 683-057  
 Project Manager: Andrew Vining  
 ALPHA Quote #:

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Date Rec'd in Lab: 9/19/17

### Report Information - Data Deliverables

FAX  
 ADEx  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables: \_\_\_\_\_  
 Report to: (if different than Project Manager) \_\_\_\_\_

ALPHA Job #: L1733155

### Billing Information

Same as Client info PO #: \_\_\_\_\_

### Regulatory Requirements/Report Limits

| State/Fed | Program | Res / Comm |
|-----------|---------|------------|
|           |         |            |
|           |         |            |
|           |         |            |

### ANALYSIS

TO-15  
 TO-15 SIM  
 APH Subtract N-Non-petroleum HCs  
 Fixed Gases  
 Sulfides & Mercaptans by TO-15

### All Columns Below Must Be Filled Out

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID                | COLLECTION     |             |             |                |              |           | Sample Matrix* | Sampler's Initials | Can Size    | I D Can | I D - Flow Controller | TO-15 | TO-15 SIM | APH Subtract N-Non-petroleum HCs | Fixed Gases | Sulfides & Mercaptans by TO-15 | Sample Comments (i.e. PID) |
|--------------------------------|--------------------------|----------------|-------------|-------------|----------------|--------------|-----------|----------------|--------------------|-------------|---------|-----------------------|-------|-----------|----------------------------------|-------------|--------------------------------|----------------------------|
|                                |                          | End Date       | Start Time  | End Time    | Initial Vacuum | Final Vacuum |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
| <u>33155-01</u>                | <u>SYSTEM_INF_091417</u> | <u>9/14/17</u> | <u>1000</u> | <u>1000</u> | <u>29.32</u>   | <u>-4.5</u>  | <u>SV</u> | <u>MB</u>      | <u>2.7</u>         | <u>1804</u> |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |
|                                |                          |                |             |             |                |              |           |                |                    |             |         |                       |       |           |                                  |             |                                |                            |

(MB)

### \*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Relinquished By:

[Signature]  
Fedex

Date/Time

9/14/17 1200

Received By:

Fedex  
[Signature]

Date/Time:

9/19/17 11:31

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



## ANALYTICAL REPORT

|                 |   |
|-----------------|---|
| Lab Number:     | L1739667  |
| Client:         | Farallon Consulting, L.L.C.<br>975 5th Avenue Northwest<br>Issaquah, WA 98027 |
| ATTN:           | Andrew Vining   |
| Phone:          | (425) 295-0800  |
| Project Name:   | SKYKOMISH   |
| Project Number: | 683-057   |
| Report Date:    | 11/07/17  |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

---

320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1739667  
**Report Date:** 11/07/17

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b>  | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|-------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1739667-01                | SYSTEM_INF_102617 | SOIL_VAPOR    | SKYKOMISH, WA              | 10/26/17 10:30                  | 10/31/17            |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1739667  
**Report Date:** 11/07/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1739667  
**Report Date:** 11/07/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on September 12, 2017. The canister certification results are provided as an addendum.

#### Petroleum Hydrocarbons in Air

L1739667-01: Isopropyl alcohol, trimethylsilanol, 2-butanone, hexamethylcyclotrisiloxane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1739667-01: An unknown siloxane is present in the C9-C12 Aliphatic Hydrocarbon range. The response for this analyte was not included in the calculation of the C9-C12 range result since it is not a petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 11/07/17

**AIR**

**Project Name:** SKYKOMISH**Lab Number:** L1739667**Project Number:** 683-057**Report Date:** 11/07/17**SAMPLE RESULTS**

**Lab ID:** L1739667-01  
**Client ID:** SYSTEM\_INF\_102617  
**Sample Location:** SKYKOMISH, WA  
**Matrix:** Soil\_Vapor  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 11/06/17 04:50  
**Analyst:** MB

**Date Collected:** 10/26/17 10:30  
**Date Received:** 10/31/17  
**Field Prep:** Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Benzene   | 0.219   | 0.100 | --  | 0.700   | 0.319 | --  |           | 1               |
| Naphthalene                                     | 0.057   | 0.050 | --  | 0.299   | 0.262 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 123        |           | 60-140              |
| bromochloromethane  | 114        |           | 60-140              |
| chlorobenzene-d5    | 112        |           | 60-140              |



Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/05/17 17:30

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1059836-4 |         |       |     |         |       |     |           |                 |
| Propylene  | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Dichlorodifluoromethane  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane  | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride   | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene  | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane   | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane   | ND      | 0.100 | --  | ND      | 0.264 | --  |           | 1               |
| Ethyl Alcohol  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Vinyl bromide  | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acetone  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane   | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| iso-Propyl Alcohol   | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile  | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| tert-Butyl Alcohol   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |
| Methylene chloride   | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene  | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide   | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane  | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate  | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/05/17 17:30

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1059836-4 |         |       |     |         |       |     |           |                 |
| 2-Butanone   | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene   | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Ethyl Acetate  | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Tetrahydrofuran  | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 1,2-Dichloroethane   | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| n-Hexane   | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| 1,1,1-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene  | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride   | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| Cyclohexane  | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| Dibromomethane   | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane  | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |
| Bromodichloromethane   | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane  | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene  | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| 2,2,4-Trimethylpentane   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Heptane  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone   | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene  | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane  | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene  | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| 2-Hexanone   | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane   | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/05/17 17:30

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1059836-4 |         |       |     |         |       |     |           |                 |
| 1,2-Dibromoethane  | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene  | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene  | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene   | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform  | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene  | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane  | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene   | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| 1,2,3-Trichloropropane   | ND      | 0.020 | --  | ND      | 0.121 | --  |           | 1               |
| Isopropylbenzene   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 4-Ethyltoluene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene   | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| Benzyl chloride  | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene  | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| n-Butylbenzene   | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene  | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |

Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 11/05/17 17:30

| Parameter  | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1059836-4 |         |       |     |         |       |     |           |                 |
| 1,2,3-Trichlorobenzene   | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene  | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1059836-3 |                  |      |                   |      |                     |     |      |               |
| Propylene   | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| Dichlorodifluoromethane   | 89               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloromethane   | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl chloride  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Butadiene   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Bromomethane  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroethane  | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Alcohol   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl bromide   | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Acetone   | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Trichlorofluoromethane  | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| iso-Propyl Alcohol  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| Acrylonitrile   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| tert-Butyl Alcohol <sup>1</sup>   | 85               |      | -                 |      | 70-130              | -   |      | 25            |
| Methylene chloride  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 3-Chloropropene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon disulfide  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Halothane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,2-Dichloroethene  | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1-Dichloroethane  | 100              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1059836-3 |                  |      |                   |      |                     |     |      |               |
| Methyl tert butyl ether   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Vinyl acetate   | 151              | Q    | -                 |      | 70-130              | -   |      | 25            |
| 2-Butanone  | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,2-Dichloroethene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethyl Acetate   | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Chloroform  | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrahydrofuran   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloroethane  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| n-Hexane  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1-Trichloroethane   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzene   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Carbon tetrachloride  | 106              |      | -                 |      | 70-130              | -   |      | 25            |
| Cyclohexane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromomethane <sup>1</sup>   | 84               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichloropropane   | 99               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromodichloromethane  | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dioxane   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Trichloroethene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 2,2,4-Trimethylpentane  | 101              |      | -                 |      | 70-130              | -   |      | 25            |
| cis-1,3-Dichloropropene   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Methyl-2-pentanone  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| trans-1,3-Dichloropropene   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2-Trichloroethane   | 102              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1739667

Report Date: 11/07/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1059836-3 |                  |      |                   |      |                     |     |      |               |
| Toluene   | 90               |      | -                 |      | 70-130              | -   |      | 25            |
| 2-Hexanone  | 103              |      | -                 |      | 70-130              | -   |      | 25            |
| Dibromochloromethane  | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dibromoethane   | 98               |      | -                 |      | 70-130              | -   |      | 25            |
| Tetrachloroethene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,1,2-Tetrachloroethane   | 93               |      | -                 |      | 70-130              | -   |      | 25            |
| Chlorobenzene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| Ethylbenzene  | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| p/m-Xylene  | 96               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromoform   | 104              |      | -                 |      | 70-130              | -   |      | 25            |
| Styrene   | 95               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,1,2,2-Tetrachloroethane   | 105              |      | -                 |      | 70-130              | -   |      | 25            |
| o-Xylene  | 97               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichloropropane <sup>1</sup>   | 94               |      | -                 |      | 70-130              | -   |      | 25            |
| Isopropylbenzene  | 91               |      | -                 |      | 70-130              | -   |      | 25            |
| Bromobenzene <sup>1</sup>   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 4-Ethyltoluene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3,5-Trimethylbenzene  | 102              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trimethylbenzene  | 112              |      | -                 |      | 70-130              | -   |      | 25            |
| Benzyl chloride   | 107              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,3-Dichlorobenzene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,4-Dichlorobenzene   | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| sec-Butylbenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1739667

Report Date: 11/07/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1059836-3 |                  |      |                   |      |                     |     |      |               |
| p-Isopropyltoluene  | 88               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2-Dichlorobenzene   | 111              |      | -                 |      | 70-130              | -   |      | 25            |
| n-Butylbenzene  | 100              |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,4-Trichlorobenzene  | 121              |      | -                 |      | 70-130              | -   |      | 25            |
| Naphthalene   | 92               |      | -                 |      | 70-130              | -   |      | 25            |
| 1,2,3-Trichlorobenzene  | 108              |      | -                 |      | 70-130              | -   |      | 25            |
| Hexachlorobutadiene   | 116              |      | -                 |      | 70-130              | -   |      | 25            |

## Lab Duplicate Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1739667

Report Date: 11/07/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1059836-5 QC Sample: L1739583-02 Client ID: DUP Sample |               |                  |       |     |      |            |
| Dichlorodifluoromethane  | 0.389         | 0.494            | ppbV  | 24  |      | 25         |
| Chloromethane  | 0.497         | 0.497            | ppbV  | 0   |      | 25         |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Vinyl chloride   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,3-Butadiene  | 0.024         | 0.023            | ppbV  | 4   |      | 25         |
| Bromomethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Acetone  | 5.27          | 5.33             | ppbV  | 1   |      | 25         |
| Trichlorofluoromethane   | 0.221         | 0.222            | ppbV  | 0   |      | 25         |
| 1,1-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Methylene chloride   | ND            | ND               | ppbV  | NC  |      | 25         |
| 3-Chloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Carbon disulfide   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | 0.064         | 0.063            | ppbV  | 2   |      | 25         |
| trans-1,2-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1-Dichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Methyl tert butyl ether  | ND            | ND               | ppbV  | NC  |      | 25         |
| 2-Butanone   | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,2-Dichloroethene   | ND            | ND               | ppbV  | NC  |      | 25         |
| Chloroform   | 0.036         | 0.035            | ppbV  | 3   |      | 25         |
| 1,2-Dichloroethane   | ND            | ND               | ppbV  | NC  |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1739667  
**Report Date:** 11/07/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1059836-5 QC Sample: L1739583-02 Client ID: DUP Sample |               |                  |       |     |      |            |
| n-Hexane   | 0.578         | 0.559            | ppbV  | 3   |      | 25         |
| 1,1,1-Trichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Benzene  | 0.180         | 0.181            | ppbV  | 1   |      | 25         |
| Carbon tetrachloride   | 0.088         | 0.088            | ppbV  | 0   |      | 25         |
| 1,2-Dichloropropane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Bromodichloromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Trichloroethene  | 0.021         | 0.020            | ppbV  | 5   |      | 25         |
| 2,2,4-Trimethylpentane   | ND            | ND               | ppbV  | NC  |      | 25         |
| Heptane  | ND            | ND               | ppbV  | NC  |      | 25         |
| cis-1,3-Dichloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 4-Methyl-2-pentanone   | ND            | ND               | ppbV  | NC  |      | 25         |
| trans-1,3-Dichloropropene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,2-Trichloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Toluene  | 0.330         | 0.320            | ppbV  | 3   |      | 25         |
| 2-Hexanone   | ND            | ND               | ppbV  | NC  |      | 25         |
| Dibromochloromethane   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dibromoethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Tetrachloroethene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,1,2-Tetrachloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| Chlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| Ethylbenzene   | 0.035         | 0.034            | ppbV  | 3   |      | 25         |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1739667

Report Date: 11/07/17

| Parameter  | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1059836-5 QC Sample: L1739583-02 Client ID: DUP Sample |               |                  |       |     |      |            |
| p/m-Xylene   | 0.099         | 0.095            | ppbV  | 4   |      | 25         |
| Bromoform  | ND            | ND               | ppbV  | NC  |      | 25         |
| Styrene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,1,2,2-Tetrachloroethane  | ND            | ND               | ppbV  | NC  |      | 25         |
| o-Xylene   | 0.037         | 0.035            | ppbV  | 6   |      | 25         |
| Isopropylbenzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 4-Ethyltoluene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,3,5-Trimethylbenzene   | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2,4-Trimethylbenzene   | 0.025         | 0.025            | ppbV  | 0   |      | 25         |
| 1,3-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,4-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |
| 1,2-Dichlorobenzene  | ND            | ND               | ppbV  | NC  |      | 25         |

Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

## SAMPLE RESULTS

Lab ID: L1739667-01  
 Client ID: SYSTEM\_INF\_102617  
 Sample Location: SKYKOMISH, WA  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 11/06/17 04:50  
 Analyst: MB

Date Collected: 10/26/17 10:30  
 Date Received: 10/31/17  
 Field Prep: Not Specified

## Quality Control Information

| Parameter  | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air - Mansfield Lab</b> |        |           |       |      |     |                 |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether                              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene  | 0.75   |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted                           | 32     |           | ug/m3 | 10   | --  | 1               |
| Toluene  | 5.0    |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene   | 2.9    |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene   | 0.97   |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted                          | 1000   |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total                               | ND     |           | ug/m3 | 10   | --  | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 124        |           | 50-200              |
| Bromochloromethane  | 132        |           | 50-200              |
| Chlorobenzene-d5    | 118        |           | 50-200              |

Project Name: SKYKOMISH

Lab Number: L1739667

Project Number: 683-057

Report Date: 11/07/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 96,APH  
 Analytical Date: 11/05/17 16:55  
 Analyst: RY

| Parameter  | Result | Qualifier | Units | RL   | MDL |
|--|--------|-----------|-------|------|-----|
| Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01 Batch: WG1059834-4 |        |           |       |      |     |
| 1,3-Butadiene  | ND     |           | ug/m3 | 0.50 | --  |
| Methyl tert butyl ether  | ND     |           | ug/m3 | 0.70 | --  |
| Benzene  | ND     |           | ug/m3 | 0.60 | --  |
| C5-C8 Aliphatics, Adjusted   | ND     |           | ug/m3 | 10   | --  |
| Toluene  | ND     |           | ug/m3 | 0.90 | --  |
| Ethylbenzene   | ND     |           | ug/m3 | 0.90 | --  |
| p/m-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| o-Xylene   | ND     |           | ug/m3 | 0.90 | --  |
| Naphthalene  | ND     |           | ug/m3 | 1.1  | --  |
| C9-C12 Aliphatics, Adjusted  | ND     |           | ug/m3 | 10   | --  |
| C9-C10 Aromatics Total   | ND     |           | ug/m3 | 10   | --  |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1739667

Report Date: 11/07/17

| Parameter   | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1059834-3 |                  |      |                   |      |                     |     |      |               |
| 1,3-Butadiene   | 111              |      | -                 |      | 70-130              | -   |      |               |
| Methyl tert butyl ether   | 95               |      | -                 |      | 70-130              | -   |      |               |
| Benzene   | 97               |      | -                 |      | 70-130              | -   |      |               |
| C5-C8 Aliphatics, Adjusted  | 106              |      | -                 |      | 70-130              | -   |      |               |
| Toluene   | 90               |      | -                 |      | 70-130              | -   |      |               |
| Ethylbenzene  | 95               |      | -                 |      | 70-130              | -   |      |               |
| p/m-Xylene  | 96               |      | -                 |      | 70-130              | -   |      |               |
| o-Xylene  | 101              |      | -                 |      | 70-130              | -   |      |               |
| Naphthalene   | 124              |      | -                 |      | 50-150              | -   |      |               |
| C9-C12 Aliphatics, Adjusted   | 112              |      | -                 |      | 70-130              | -   |      |               |
| C9-C10 Aromatics Total  | 88               |      | -                 |      | 70-130              | -   |      |               |

## Lab Duplicate Analysis

Batch Quality Control

Project Name: SKYKOMISH

Project Number: 683-057

Lab Number: L1739667

Report Date: 11/07/17

| Parameter   | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1059834-5 QC Sample: L1739667-01 Client ID: SYSTEM_INF_102617 |               |                  |       |     |      |            |
| 1,3-Butadiene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Methyl tert butyl ether   | ND            | ND               | ug/m3 | NC  |      | 30         |
| Benzene   | 0.75          | 0.74             | ug/m3 | 1   |      | 30         |
| C5-C8 Aliphatics, Adjusted  | 32            | 34               | ug/m3 | 6   |      | 30         |
| Toluene   | 5.0           | 5.5              | ug/m3 | 10  |      | 30         |
| Ethylbenzene  | ND            | ND               | ug/m3 | NC  |      | 30         |
| p/m-Xylene  | 2.9           | 3.0              | ug/m3 | 3   |      | 30         |
| o-Xylene  | 0.97          | 0.97             | ug/m3 | 0   |      | 30         |
| Naphthalene   | ND            | ND               | ug/m3 | NC  |      | 30         |
| C9-C12 Aliphatics, Adjusted   | 1000          | 1100             | ug/m3 | 10  |      | 30         |
| C9-C10 Aromatics Total  | ND            | ND               | ug/m3 | NC  |      | 30         |

**Project Name:** SKYKOMISH

**Project Number:** 683-057

Serial\_No:11071714:10  
**Lab Number:** L1739667

**Report Date:** 11/07/17

### Canister and Flow Controller Information

| Samplenum   | Client ID         | Media ID | Media Type | Date Prepared | Bottle Order | Cleaning Batch ID | Can Leak Check | Initial Pressure (in. Hg) | Pressure on Receipt (in. Hg) | Flow Controller Leak Chk | Flow Out mL/min | Flow In mL/min | % RPD |
|-------------|-------------------|----------|------------|---------------|--------------|-------------------|----------------|---------------------------|------------------------------|--------------------------|-----------------|----------------|-------|
| L1739667-01 | SYSTEM_INF_102617 | 383      | 2.7L Can   | 09/12/17      | 247750       | L1731188-01       | Pass           | -29.9                     | -6.4                         | -                        | -               | -              | -     |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01  
 Client ID: CAN 2245 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/06/17 09:06  
 Analyst: RY

Date Collected: 09/05/17 16:00  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Chlorodifluoromethane                    | ND      | 0.200 | --  | ND      | 0.707 | --  |           | 1               |
| Propylene                                | ND      | 0.500 | --  | ND      | 0.861 | --  |           | 1               |
| Propane                                  | ND      | 0.500 | --  | ND      | 0.902 | --  |           | 1               |
| Dichlorodifluoromethane                  | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                            | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                | ND      | 0.200 | --  | ND      | 1.40  | --  |           | 1               |
| Methanol                                 | ND      | 5.00  | --  | ND      | 6.55  | --  |           | 1               |
| Vinyl chloride                           | ND      | 0.200 | --  | ND      | 0.511 | --  |           | 1               |
| 1,3-Butadiene                            | ND      | 0.200 | --  | ND      | 0.442 | --  |           | 1               |
| Butane                                   | ND      | 0.200 | --  | ND      | 0.475 | --  |           | 1               |
| Bromomethane                             | ND      | 0.200 | --  | ND      | 0.777 | --  |           | 1               |
| Chloroethane                             | ND      | 0.200 | --  | ND      | 0.528 | --  |           | 1               |
| Ethanol                                  | ND      | 5.00  | --  | ND      | 9.42  | --  |           | 1               |
| Dichlorofluoromethane                    | ND      | 0.200 | --  | ND      | 0.842 | --  |           | 1               |
| Vinyl bromide                            | ND      | 0.200 | --  | ND      | 0.874 | --  |           | 1               |
| Acrolein                                 | ND      | 0.500 | --  | ND      | 1.15  | --  |           | 1               |
| Acetone                                  | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Acetonitrile                             | ND      | 0.200 | --  | ND      | 0.336 | --  |           | 1               |
| Trichlorofluoromethane                   | ND      | 0.200 | --  | ND      | 1.12  | --  |           | 1               |
| Isopropanol                              | ND      | 0.500 | --  | ND      | 1.23  | --  |           | 1               |
| Acrylonitrile                            | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| Pentane                                  | ND      | 0.200 | --  | ND      | 0.590 | --  |           | 1               |
| Ethyl ether                              | ND      | 0.200 | --  | ND      | 0.606 | --  |           | 1               |
| 1,1-Dichloroethene                       | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Tertiary butyl Alcohol                   | ND      | 0.500 | --  | ND      | 1.52  | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01  
 Client ID: CAN 2245 SHELF 1  
 Sample Location:

Date Collected: 09/05/17 16:00  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Methylene chloride                       | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| 3-Chloropropene                          | ND      | 0.200 | --  | ND      | 0.626 | --  |           | 1               |
| Carbon disulfide                         | ND      | 0.200 | --  | ND      | 0.623 | --  |           | 1               |
| Freon-113                                | ND      | 0.200 | --  | ND      | 1.53  | --  |           | 1               |
| trans-1,2-Dichloroethene                 | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| 1,1-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| Methyl tert butyl ether                  | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| Vinyl acetate                            | ND      | 1.00  | --  | ND      | 3.52  | --  |           | 1               |
| 2-Butanone                               | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                   | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |
| Ethyl Acetate                            | ND      | 0.500 | --  | ND      | 1.80  | --  |           | 1               |
| Chloroform                               | ND      | 0.200 | --  | ND      | 0.977 | --  |           | 1               |
| Tetrahydrofuran                          | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| 2,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 1,2-Dichloroethane                       | ND      | 0.200 | --  | ND      | 0.809 | --  |           | 1               |
| n-Hexane                                 | ND      | 0.200 | --  | ND      | 0.705 | --  |           | 1               |
| Diisopropyl ether                        | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| tert-Butyl Ethyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| 1,1,1-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloropropene                      | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| Benzene                                  | ND      | 0.200 | --  | ND      | 0.639 | --  |           | 1               |
| Carbon tetrachloride                     | ND      | 0.200 | --  | ND      | 1.26  | --  |           | 1               |
| Cyclohexane                              | ND      | 0.200 | --  | ND      | 0.688 | --  |           | 1               |
| tert-Amyl Methyl Ether                   | ND      | 0.200 | --  | ND      | 0.836 | --  |           | 1               |
| Dibromomethane                           | ND      | 0.200 | --  | ND      | 1.42  | --  |           | 1               |
| 1,2-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| Bromodichloromethane                     | ND      | 0.200 | --  | ND      | 1.34  | --  |           | 1               |
| 1,4-Dioxane                              | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01  
 Client ID: CAN 2245 SHELF 1  
 Sample Location:

Date Collected: 09/05/17 16:00  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Trichloroethene                          | ND      | 0.200 | --  | ND      | 1.07  | --  |           | 1               |
| 2,2,4-Trimethylpentane                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Methyl Methacrylate                      | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| Heptane                                  | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| cis-1,3-Dichloropropene                  | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 4-Methyl-2-pentanone                     | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                | ND      | 0.200 | --  | ND      | 0.908 | --  |           | 1               |
| 1,1,2-Trichloroethane                    | ND      | 0.200 | --  | ND      | 1.09  | --  |           | 1               |
| Toluene                                  | ND      | 0.200 | --  | ND      | 0.754 | --  |           | 1               |
| 1,3-Dichloropropane                      | ND      | 0.200 | --  | ND      | 0.924 | --  |           | 1               |
| 2-Hexanone                               | ND      | 0.200 | --  | ND      | 0.820 | --  |           | 1               |
| Dibromochloromethane                     | ND      | 0.200 | --  | ND      | 1.70  | --  |           | 1               |
| 1,2-Dibromoethane                        | ND      | 0.200 | --  | ND      | 1.54  | --  |           | 1               |
| Butyl acetate                            | ND      | 0.500 | --  | ND      | 2.38  | --  |           | 1               |
| Octane                                   | ND      | 0.200 | --  | ND      | 0.934 | --  |           | 1               |
| Tetrachloroethene                        | ND      | 0.200 | --  | ND      | 1.36  | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| Chlorobenzene                            | ND      | 0.200 | --  | ND      | 0.921 | --  |           | 1               |
| Ethylbenzene                             | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| p/m-Xylene                               | ND      | 0.400 | --  | ND      | 1.74  | --  |           | 1               |
| Bromoform                                | ND      | 0.200 | --  | ND      | 2.07  | --  |           | 1               |
| Styrene                                  | ND      | 0.200 | --  | ND      | 0.852 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                | ND      | 0.200 | --  | ND      | 1.37  | --  |           | 1               |
| o-Xylene                                 | ND      | 0.200 | --  | ND      | 0.869 | --  |           | 1               |
| 1,2,3-Trichloropropane                   | ND      | 0.200 | --  | ND      | 1.21  | --  |           | 1               |
| Nonane                                   | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| Isopropylbenzene                         | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Bromobenzene                             | ND      | 0.200 | --  | ND      | 0.793 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01  
 Client ID: CAN 2245 SHELF 1  
 Sample Location:

Date Collected: 09/05/17 16:00  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|--|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|  | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |       |     |         |       |     |           |                 |
| 2-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| n-Propylbenzene                          | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Chlorotoluene                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 4-Ethyltoluene                           | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| tert-Butylbenzene                        | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trimethylbenzene                   | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| Decane                                   | ND      | 0.200 | --  | ND      | 1.16  | --  |           | 1               |
| Benzyl chloride                          | ND      | 0.200 | --  | ND      | 1.04  | --  |           | 1               |
| 1,3-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| 1,4-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| sec-Butylbenzene                         | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                       | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                      | ND      | 0.200 | --  | ND      | 1.20  | --  |           | 1               |
| n-Butylbenzene                           | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dibromo-3-chloropropane              | ND      | 0.200 | --  | ND      | 1.93  | --  |           | 1               |
| Undecane                                 | ND      | 0.200 | --  | ND      | 1.28  | --  |           | 1               |
| Dodecane                                 | ND      | 0.200 | --  | ND      | 1.39  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Naphthalene                              | ND      | 0.200 | --  | ND      | 1.05  | --  |           | 1               |
| 1,2,3-Trichlorobenzene                   | ND      | 0.200 | --  | ND      | 1.48  | --  |           | 1               |
| Hexachlorobutadiene                      | ND      | 0.200 | --  | ND      | 2.13  | --  |           | 1               |

| Results                          | Qualifier | Units | RDL | Dilution Factor |
|----------------------------------|-----------|-------|-----|-----------------|
| Tentatively Identified Compounds |           |       |     |                 |

No Tentatively Identified Compounds



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01 Date Collected: 09/05/17 16:00  
 Client ID: CAN 2245 SHELF 1 Date Received: 09/06/17  
 Sample Location: Field Prep: Not Specified

| Parameter                                | ppbV    |    |     | ug/m3   |    |     | Qualifier | Dilution Factor |
|--|---------|----|-----|---------|----|-----|-----------|-----------------|
|  | Results | RL | MDL | Results | RL | MDL |           |                 |
| Volatile Organics in Air - Mansfield Lab |         |    |     |         |    |     |           |                 |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-Difluorobenzene | 72         |           | 60-140              |
| Bromochloromethane  | 81         |           | 60-140              |
| chlorobenzene-d5    | 73         |           | 60-140              |

**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01  
 Client ID: CAN 2245 SHELF 1  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/06/17 09:06  
 Analyst: RY

Date Collected: 09/05/17 16:00  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Dichlorodifluoromethane                         | ND      | 0.200 | --  | ND      | 0.989 | --  |           | 1               |
| Chloromethane                                   | ND      | 0.200 | --  | ND      | 0.413 | --  |           | 1               |
| Freon-114                                       | ND      | 0.050 | --  | ND      | 0.349 | --  |           | 1               |
| Vinyl chloride                                  | ND      | 0.020 | --  | ND      | 0.051 | --  |           | 1               |
| 1,3-Butadiene                                   | ND      | 0.020 | --  | ND      | 0.044 | --  |           | 1               |
| Bromomethane                                    | ND      | 0.020 | --  | ND      | 0.078 | --  |           | 1               |
| Chloroethane                                    | ND      | 0.020 | --  | ND      | 0.053 | --  |           | 1               |
| Acetone   | ND      | 1.00  | --  | ND      | 2.38  | --  |           | 1               |
| Trichlorofluoromethane                          | ND      | 0.050 | --  | ND      | 0.281 | --  |           | 1               |
| Acrylonitrile                                   | ND      | 0.500 | --  | ND      | 1.09  | --  |           | 1               |
| 1,1-Dichloroethene                              | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Methylene chloride                              | ND      | 0.500 | --  | ND      | 1.74  | --  |           | 1               |
| Freon-113                                       | ND      | 0.050 | --  | ND      | 0.383 | --  |           | 1               |
| Halothane                                       | ND      | 0.050 | --  | ND      | 0.404 | --  |           | 1               |
| trans-1,2-Dichloroethene                        | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| 1,1-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| Methyl tert butyl ether                         | ND      | 0.200 | --  | ND      | 0.721 | --  |           | 1               |
| 2-Butanone                                      | ND      | 0.500 | --  | ND      | 1.47  | --  |           | 1               |
| cis-1,2-Dichloroethene                          | ND      | 0.020 | --  | ND      | 0.079 | --  |           | 1               |
| Chloroform                                      | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2-Dichloroethane                              | ND      | 0.020 | --  | ND      | 0.081 | --  |           | 1               |
| 1,1,1-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Benzene   | ND      | 0.100 | --  | ND      | 0.319 | --  |           | 1               |
| Carbon tetrachloride                            | ND      | 0.020 | --  | ND      | 0.126 | --  |           | 1               |
| 1,2-Dichloropropane                             | ND      | 0.020 | --  | ND      | 0.092 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01  
 Client ID: CAN 2245 SHELF 1  
 Sample Location:

Date Collected: 09/05/17 16:00  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| Bromodichloromethane                            | ND      | 0.020 | --  | ND      | 0.134 | --  |           | 1               |
| 1,4-Dioxane                                     | ND      | 0.100 | --  | ND      | 0.360 | --  |           | 1               |
| Trichloroethene                                 | ND      | 0.020 | --  | ND      | 0.107 | --  |           | 1               |
| cis-1,3-Dichloropropene                         | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 4-Methyl-2-pentanone                            | ND      | 0.500 | --  | ND      | 2.05  | --  |           | 1               |
| trans-1,3-Dichloropropene                       | ND      | 0.020 | --  | ND      | 0.091 | --  |           | 1               |
| 1,1,2-Trichloroethane                           | ND      | 0.020 | --  | ND      | 0.109 | --  |           | 1               |
| Toluene   | ND      | 0.050 | --  | ND      | 0.188 | --  |           | 1               |
| Dibromochloromethane                            | ND      | 0.020 | --  | ND      | 0.170 | --  |           | 1               |
| 1,2-Dibromoethane                               | ND      | 0.020 | --  | ND      | 0.154 | --  |           | 1               |
| Tetrachloroethene                               | ND      | 0.020 | --  | ND      | 0.136 | --  |           | 1               |
| 1,1,1,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| Chlorobenzene                                   | ND      | 0.100 | --  | ND      | 0.461 | --  |           | 1               |
| Ethylbenzene                                    | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| p/m-Xylene                                      | ND      | 0.040 | --  | ND      | 0.174 | --  |           | 1               |
| Bromoform                                       | ND      | 0.020 | --  | ND      | 0.207 | --  |           | 1               |
| Styrene   | ND      | 0.020 | --  | ND      | 0.085 | --  |           | 1               |
| 1,1,2,2-Tetrachloroethane                       | ND      | 0.020 | --  | ND      | 0.137 | --  |           | 1               |
| o-Xylene  | ND      | 0.020 | --  | ND      | 0.087 | --  |           | 1               |
| Isopropylbenzene                                | ND      | 0.200 | --  | ND      | 0.983 | --  |           | 1               |
| 4-Ethyltoluene                                  | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3,5-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,2,4-Trimethylbenzene                          | ND      | 0.020 | --  | ND      | 0.098 | --  |           | 1               |
| 1,3-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| 1,4-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |
| sec-Butylbenzene                                | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| p-Isopropyltoluene                              | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2-Dichlorobenzene                             | ND      | 0.020 | --  | ND      | 0.120 | --  |           | 1               |



**Project Name:** BATCH CANISTER CERTIFICATION  
**Project Number:** CANISTER QC BAT

**Lab Number:** L1731188  
**Report Date:** 11/07/17

### Air Canister Certification Results

Lab ID: L1731188-01  
 Client ID: CAN 2245 SHELF 1  
 Sample Location:

Date Collected: 09/05/17 16:00  
 Date Received: 09/06/17  
 Field Prep: Not Specified

| Parameter                                       | ppbV    |       |     | ug/m3   |       |     | Qualifier | Dilution Factor |
|---|---------|-------|-----|---------|-------|-----|-----------|-----------------|
|   | Results | RL    | MDL | Results | RL    | MDL |           |                 |
| Volatile Organics in Air by SIM - Mansfield Lab |         |       |     |         |       |     |           |                 |
| n-Butylbenzene                                  | ND      | 0.200 | --  | ND      | 1.10  | --  |           | 1               |
| 1,2,4-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Naphthalene                                     | ND      | 0.050 | --  | ND      | 0.262 | --  |           | 1               |
| 1,2,3-Trichlorobenzene                          | ND      | 0.050 | --  | ND      | 0.371 | --  |           | 1               |
| Hexachlorobutadiene                             | ND      | 0.050 | --  | ND      | 0.533 | --  |           | 1               |

| Internal Standard   | % Recovery | Qualifier | Acceptance Criteria |
|---------------------|------------|-----------|---------------------|
| 1,4-difluorobenzene | 75         |           | 60-140              |
| bromochloromethane  | 84         |           | 60-140              |
| chlorobenzene-d5    | 80         |           | 60-140              |

# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1731188**Project Number:** CANISTER QC BAT**Report Date:** 11/07/17**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1731188-01  
**Client ID:** CAN 2245 SHELF 1  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 09/06/17 09:06  
**Analyst:** RY

**Date Collected:** 09/05/17 16:00  
**Date Received:** 09/06/17  
**Field Prep:** Not Specified

| Parameter                            | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------|--------|-----------|-------|------|-----|-----------------|
| <b>Petroleum Hydrocarbons in Air</b> |        |           |       |      |     |                 |
| 1,3-Butadiene                        | ND     |           | ug/m3 | 0.50 | --  | 1               |
| Methyl tert butyl ether              | ND     |           | ug/m3 | 0.70 | --  | 1               |
| Benzene                              | ND     |           | ug/m3 | 0.60 | --  | 1               |
| C5-C8 Aliphatics, Adjusted           | ND     |           | ug/m3 | 10   | --  | 1               |
| Toluene                              | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Ethylbenzene                         | ND     |           | ug/m3 | 0.90 | --  | 1               |
| p/m-Xylene                           | ND     |           | ug/m3 | 0.90 | --  | 1               |
| o-Xylene                             | ND     |           | ug/m3 | 0.90 | --  | 1               |
| Naphthalene                          | ND     |           | ug/m3 | 1.1  | --  | 1               |
| C9-C12 Aliphatics, Adjusted          | ND     |           | ug/m3 | 10   | --  | 1               |
| C9-C10 Aromatics Total               | ND     |           | ug/m3 | 10   | --  | 1               |

Project Name: SKYKOMISH

Project Number: 683-057

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

N/A                                  Absent

**Container Information****Container ID**    **Container Type**

L1739667-01A    Canister - 2.7 Liter

| <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b>      |
|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|-------------------------|
| N/A           | NA                    |                     |                       | Y           | Absent      |                             | APH-10(30),TO15-SIM(30) |

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1739667  
**Report Date:** 11/07/17

## GLOSSARY

### Acronyms

|          |   |
|----------|---|
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA      | - Environmental Protection Agency.  |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.  |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.   |
| NA       | - Not Applicable.   |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.  |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.   |
| NI       | - Not Ignitable.  |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.   |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.  |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.   |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.   |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1739667  
**Report Date:** 11/07/17

#### Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SKYKOMISH  
**Project Number:** 683-057

**Lab Number:** L1739667  
**Report Date:** 11/07/17

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.
- 96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

**EPA 9050A:** NPW: Specific Conductance

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**SM 2540D:** TSS

**EPA 3005A** NPW

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



**APPENDIX C  
LABORATORY ANALYTICAL REPORTS  
FOR PROCESS WATER SAMPLES**

2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
Skykomish School  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington

Farallon PN: 683-067

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-69071-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
6/16/2017 11:50:54 AM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

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**Job ID: 580-69071-1**

---

**Laboratory: TestAmerica Seattle**

---

**Narrative**

**Job Narrative  
580-69071-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/9/2017 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° C.

**GC Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

**Client Sample ID: LAG\_EFF\_060817**

**Lab Sample ID: 580-69071-1**

**Date Collected: 06/08/17 11:25**

**Matrix: Water**

**Date Received: 06/09/17 17:00**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 06/13/17 10:55 | 06/14/17 17:39 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 06/13/17 10:55 | 06/14/17 17:39 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 97        |           | 43 - 119 |     |      |   | 06/13/17 10:55 | 06/14/17 17:39 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

**Client Sample ID: LAG\_INF\_060817**

**Lab Sample ID: 580-69071-2**

**Date Collected: 06/08/17 11:30**

**Matrix: Water**

**Date Received: 06/09/17 17:00**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result           | Qualifier        | RL            | MDL | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|----------------------------|------------------|------------------|---------------|-----|------|---|-----------------|-----------------|----------------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.24</b>      |                  | 0.11          |     | mg/L |   | 06/13/17 10:55  | 06/14/17 18:02  | 1              |
| Motor Oil (>C24-C36)       | ND               |                  | 0.25          |     | mg/L |   | 06/13/17 10:55  | 06/14/17 18:02  | 1              |
| <b>Surrogate</b>           | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |     |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| <i>o-Terphenyl</i>         | 90               |                  | 43 - 119      |     |      |   | 06/13/17 10:55  | 06/14/17 18:02  | 1              |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

**Client Sample ID: LEAD\_INF\_060817**

**Lab Sample ID: 580-69071-3**

**Date Collected: 06/08/17 11:35**

**Matrix: Water**

**Date Received: 06/09/17 17:00**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.4       |           | 0.11     |     | mg/L |   | 06/13/17 10:55 | 06/14/17 18:24 | 1       |
| Motor Oil (>C24-C36) | 1.4       |           | 0.25     |     | mg/L |   | 06/13/17 10:55 | 06/14/17 18:24 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 91        |           | 43 - 119 |     |      |   | 06/13/17 10:55 | 06/14/17 18:24 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-248337/1-A**  
**Matrix: Water**  
**Analysis Batch: 248449**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 248337**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 06/13/17 10:55 | 06/14/17 13:29 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 06/13/17 10:55 | 06/14/17 13:29 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 102          |              | 43 - 119 | 06/13/17 10:55 | 06/14/17 13:29 | 1       |

**Lab Sample ID: LCS 580-248337/2-A**  
**Matrix: Water**  
**Analysis Batch: 248449**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 248337**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.533      |               | mg/L |   | 107  | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.560      |               | mg/L |   | 112  | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 107           |               | 43 - 119 |

**Lab Sample ID: LCSD 580-248337/3-A**  
**Matrix: Water**  
**Analysis Batch: 248449**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 248337**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.503       |                | mg/L |   | 101  | 59 - 112 | 6   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.542       |                | mg/L |   | 108  | 64 - 120 | 3   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 101            |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

**Client Sample ID: LAG\_EFF\_060817**

**Lab Sample ID: 580-69071-1**

Date Collected: 06/08/17 11:25

Matrix: Water

Date Received: 06/09/17 17:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 248337       | 06/13/17 10:55       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 248449       | 06/14/17 17:39       | KZ1     | TAL SEA |

**Client Sample ID: LAG\_INF\_060817**

**Lab Sample ID: 580-69071-2**

Date Collected: 06/08/17 11:30

Matrix: Water

Date Received: 06/09/17 17:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 248337       | 06/13/17 10:55       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 248449       | 06/14/17 18:02       | KZ1     | TAL SEA |

**Client Sample ID: LEAD\_INF\_060817**

**Lab Sample ID: 580-69071-3**

Date Collected: 06/08/17 11:35

Matrix: Water

Date Received: 06/09/17 17:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 248337       | 06/13/17 10:55       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 248449       | 06/14/17 18:24       | KZ1     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69071-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-69071-1   | LAG_EFF_060817   | Water  | 06/08/17 11:25 | 06/09/17 17:00 |
| 580-69071-2   | LAG_INF_060817   | Water  | 06/08/17 11:30 | 06/09/17 17:00 |
| 580-69071-3   | LEAD_INF_060817  | Water  | 06/08/17 11:35 | 06/09/17 17:00 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-69071-1

**Login Number: 69071**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Ponce-McDermott, Monica**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-69280-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
6/23/2017 5:31:20 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

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**Job ID: 580-69280-1**

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**Laboratory: TestAmerica Seattle**

---

## Narrative

**Job Narrative  
580-69280-1**

### Comments

No additional comments.

### Receipt

The samples were received on 6/15/2017 4:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_INF\_061417 (580-69280-2) and LEAD\_INF\_061417 (580-69280-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

**Client Sample ID: LAG\_EFF\_061417**

**Lab Sample ID: 580-69280-1**

**Date Collected: 06/14/17 13:30**

**Matrix: Water**

**Date Received: 06/15/17 16:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 06/21/17 13:31 | 06/22/17 17:01 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 06/21/17 13:31 | 06/22/17 17:01 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>   | 87        |           | 43 - 119 |     |      |   | 06/21/17 13:31 | 06/22/17 17:01 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

**Client Sample ID: LAG\_INF\_061417**

**Lab Sample ID: 580-69280-2**

**Date Collected: 06/14/17 13:35**

**Matrix: Water**

**Date Received: 06/15/17 16:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.25</b> |           | 0.11     |     | mg/L |   | 06/21/17 13:31 | 06/22/17 17:24 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 06/21/17 13:31 | 06/22/17 17:24 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 88          |           | 43 - 119 |     |      |   | 06/21/17 13:31 | 06/22/17 17:24 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

**Client Sample ID: LEAD\_INF\_061417**

**Lab Sample ID: 580-69280-3**

**Date Collected: 06/14/17 13:40**

**Matrix: Water**

**Date Received: 06/15/17 16:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.2       |           | 0.11     |     | mg/L |   | 06/21/17 13:31 | 06/22/17 17:46 | 1       |
| Motor Oil (>C24-C36) | 0.66      |           | 0.25     |     | mg/L |   | 06/21/17 13:31 | 06/22/17 17:46 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 88        |           | 43 - 119 |     |      |   | 06/21/17 13:31 | 06/22/17 17:46 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-249140/1-A**

**Matrix: Water**

**Analysis Batch: 249278**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 249140**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 06/21/17 13:31 | 06/22/17 15:55 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 06/21/17 13:31 | 06/22/17 15:55 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 94           |              | 43 - 119 | 06/21/17 13:31 | 06/22/17 15:55 | 1       |

**Lab Sample ID: LCS 580-249140/2-A**

**Matrix: Water**

**Analysis Batch: 249278**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 249140**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.462      |               | mg/L |   | 92   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.495      |               | mg/L |   | 99   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 90            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-249140/3-A**

**Matrix: Water**

**Analysis Batch: 249278**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 249140**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.417       |                | mg/L |   | 83   | 59 - 112 | 10  | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.446       |                | mg/L |   | 89   | 64 - 120 | 10  | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 84             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

**Client Sample ID: LAG\_EFF\_061417**

**Lab Sample ID: 580-69280-1**

Date Collected: 06/14/17 13:30

Matrix: Water

Date Received: 06/15/17 16:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 249140       | 06/21/17 13:31       | JCV     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 249278       | 06/22/17 17:01       | KZ1     | TAL SEA |

**Client Sample ID: LAG\_INF\_061417**

**Lab Sample ID: 580-69280-2**

Date Collected: 06/14/17 13:35

Matrix: Water

Date Received: 06/15/17 16:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 249140       | 06/21/17 13:31       | JCV     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 249278       | 06/22/17 17:24       | KZ1     | TAL SEA |

**Client Sample ID: LEAD\_INF\_061417**

**Lab Sample ID: 580-69280-3**

Date Collected: 06/14/17 13:40

Matrix: Water

Date Received: 06/15/17 16:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 249140       | 06/21/17 13:31       | JCV     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 249278       | 06/22/17 17:46       | KZ1     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69280-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-69280-1   | LAG_EFF_061417   | Water  | 06/14/17 13:30 | 06/15/17 16:15 |
| 580-69280-2   | LAG_INF_061417   | Water  | 06/14/17 13:35 | 06/15/17 16:15 |
| 580-69280-3   | LEAD_INF_061417  | Water  | 06/14/17 13:40 | 06/15/17 16:15 |

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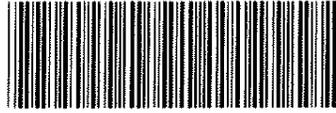
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Chain of Custody Record

Tacoma, WA 98424  
phone 253.922.2310 fax 253.922.5047

TestAmerica Laboratories, Inc.

| Client Contact  |                          | Project Manager: Andrew Vining             |                         | Site Contact: Russell Luiten                        |                                | Date: 6-14-17   |  | COC No:   |                            |
|---|--------------------------|--|-------------------------|---|--------------------------------|---|--|---|----------------------------|
| Farallon Consulting   |                          | Tel/Fax: 425-295-0847                      |                         | Lab Contact: Kristine Allen                         |                                | Carrier:  |  | 1 of 1 COCs                                       |                            |
| 975 5th Avenue Northwest  |                          | Analysis Turnaround Time                   |                         | Filtered Sample<br>NWTPIH-Dx w/o silica gel cleanup |                                |   |  | Job No. Invoice attention to: Shane Degross, BNSF |                            |
| Issaquah, WA 98027  |                          | Calendar ( C ) or Work Days ( W ) W        |                         |   |                                |   |  | SDG No.   |                            |
| (425) 295-0800 Phone  |                          | TAT if different from Below _____          |                         |   |                                |   |  | Sampler: <i>A. Vining</i>                         |                            |
| (425) 295-0850 FAX  |                          | <input type="checkbox"/> 2 weeks           |                         |   |                                |   |  | Sample Specific Notes:                            |                            |
| Project Name: Skykomish School HWF  |                          | <input checked="" type="checkbox"/> 1 week |                         |   |                                |   |  |   |                            |
| Site: Skykomish Fueling Facility  |                          | <input type="checkbox"/> 2 days            |                         |   |                                |   |  |   |                            |
| WO #: TT0100-Q13  |                          | <input type="checkbox"/> 1 day             |                         |   |                                |   |  |   |                            |
| Sample Identification   | Sample Date              | Sample Time                                | Sample Type             | Matrix  | # of Cont.                     |   |  |   |                            |
| LAG EFF <i>06/14/17</i>   | <i>6/14/17</i>           | <i>13:30</i>                               | Grab                    | W   | 2                              | X   |  |   | *** See instructions below |
| LAG INF <i>06/14/17</i>   | <i>6/14/17</i>           | <i>13:35</i>                               | Grab                    | W   | 2                              | X   |  |   |                            |
| LEAD INF <i>06/14/17</i>  | <i>6/14/17</i>           | <i>13:40</i>                               | Grab                    | W   | 2                              | X   |  |   |                            |
|   |                          |  |                         |   |                                | <br>580-69280 Chain of Custody                               |  |   |                            |
| Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other   |                          |  |                         |   |                                | TB <i>A2</i> Cooler <i>Cor 1.4</i> Unc <i>1.6</i><br>Cooler Dsc <i>Ly Green/Alu@Lab</i><br>Wet/Packs Packing <i>Bubble</i><br><i>w/o</i>        |  |   |                            |
| Possible Hazard Identification  |                          |  |                         |   |                                | Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)  |  |   |                            |
| <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown |                          |  |                         |   |                                | <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |  |   |                            |
| Special Instructions/QC Requirements & Comments: 1) No silica gel cleanup   |                          |  |                         |   |                                |   |  |   |                            |
| Relinquished by: <i>Andrew Vining</i>   | Company: <i>FARALLON</i> | Date/Time: <i>6/15/17 10:00</i>            | Received by: <i>ZAS</i> | Company: <i>TA-SEA</i>                              | Date/Time: <i>6/15/17 1615</i> |   |  |   |                            |
| Relinquished by:  | Company:                 | Date/Time:                                 | Received by:            | Company:  | Date/Time:                     |   |  |   |                            |
| Relinquished by:  | Company:                 | Date/Time:                                 | Received by:            | Company:  | Date/Time:                     |   |  |   |                            |

## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-69280-1

**Login Number: 69280**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Ponce-McDermott, Monica**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is <=/ background as measured by a survey meter. | True   |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| Sample custody seals, if present, are intact.                                    | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-69441-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
6/30/2017 4:17:41 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

**Job ID: 580-69441-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-69441-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/23/2017 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The continuing calibration verification (CCV) associated with batch 580-249698 recovered above the upper control limit for #2 Diesel (C10-C24) and Diesel Range Organics (C12-C24). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVRT 580-249698/3) and (MB 580-249549/1-A).

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_INF\_062217 (580-69441-2).

Method(s) NWTPH-Dx: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LEAD\_INF\_062217 (580-69441-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

## Qualifiers

### GC Semi VOA

| Qualifier | Qualifier Description   |
|-----------|---|
| F1        | MS and/or MSD Recovery is outside acceptance limits.  |
| F2        | MS/MSD RPD exceeds control limits   |
| 4         | MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

**Client Sample ID: LAG\_EFF\_062217**

**Lab Sample ID: 580-69441-1**

**Date Collected: 06/22/17 07:45**

**Matrix: Water**

**Date Received: 06/23/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 06/26/17 14:27 | 06/28/17 04:38 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 06/26/17 14:27 | 06/28/17 04:38 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 91        |           | 43 - 119 |     |      |   | 06/26/17 14:27 | 06/28/17 04:38 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

**Client Sample ID: LAG\_INF\_062217**

**Lab Sample ID: 580-69441-2**

Date Collected: 06/22/17 07:50

Matrix: Water

Date Received: 06/23/17 17:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.69      |           | 0.11     |     | mg/L |   | 06/26/17 14:27 | 06/28/17 05:00 | 1       |
| Motor Oil (>C24-C36) | 0.33      |           | 0.24     |     | mg/L |   | 06/26/17 14:27 | 06/28/17 05:00 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 103       |           | 43 - 119 |     |      |   | 06/26/17 14:27 | 06/28/17 05:00 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

**Client Sample ID: LEAD\_INF\_062217**

**Lab Sample ID: 580-69441-3**

**Date Collected: 06/22/17 07:55**

**Matrix: Water**

**Date Received: 06/23/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.1       |           | 0.11     |     | mg/L |   | 06/29/17 15:06 | 06/29/17 19:40 | 1       |
| Motor Oil (>C24-C36) | 0.73      |           | 0.25     |     | mg/L |   | 06/29/17 15:06 | 06/29/17 19:40 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 86        |           | 43 - 119 |     |      |   | 06/29/17 15:06 | 06/29/17 19:40 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-249549/1-A**

**Matrix: Water**

**Analysis Batch: 249698**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 249549**

| Analyte              | MB Result | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11     |     | mg/L |   | 06/26/17 14:27 | 06/27/17 19:35 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25     |     | mg/L |   | 06/26/17 14:27 | 06/27/17 19:35 | 1       |
| Surrogate            | %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 96        |              | 43 - 119 |     |      |   | 06/26/17 14:27 | 06/27/17 19:35 | 1       |

**Lab Sample ID: MB 580-249549/1-A**

**Matrix: Water**

**Analysis Batch: 249774**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 249549**

| Analyte              | MB Result | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11     |     | mg/L |   | 06/26/17 14:27 | 06/28/17 17:43 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25     |     | mg/L |   | 06/26/17 14:27 | 06/28/17 17:43 | 1       |
| Surrogate            | %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 73        |              | 43 - 119 |     |      |   | 06/26/17 14:27 | 06/28/17 17:43 | 1       |

**Lab Sample ID: LCS 580-249549/2-A**

**Matrix: Water**

**Analysis Batch: 249774**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 249549**

| Analyte              | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------------------|---------------|---------------|---------------|------|---|------|--------------|
| #2 Diesel (C10-C24)  | 0.500         | 0.432         |               | mg/L |   | 86   | 59 - 112     |
| Motor Oil (>C24-C36) | 0.500         | 0.367         |               | mg/L |   | 73   | 64 - 120     |
| Surrogate            | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |              |
| <i>o</i> -Terphenyl  | 90            |               | 43 - 119      |      |   |      |              |

**Lab Sample ID: LCSD 580-249549/3-A**

**Matrix: Water**

**Analysis Batch: 249774**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 249549**

| Analyte              | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|----------------------|----------------|----------------|----------------|------|---|------|--------------|-----|-----------|
| #2 Diesel (C10-C24)  | 0.500          | 0.475          |                | mg/L |   | 95   | 59 - 112     | 10  | 16        |
| Motor Oil (>C24-C36) | 0.500          | 0.418          |                | mg/L |   | 84   | 64 - 120     | 13  | 17        |
| Surrogate            | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |              |     |           |
| <i>o</i> -Terphenyl  | 99             |                | 43 - 119       |      |   |      |              |     |           |

**Lab Sample ID: 580-69315-D-3-A MS**

**Matrix: Water**

**Analysis Batch: 249698**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

**Prep Batch: 249549**

| Analyte              | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| #2 Diesel (C10-C24)  | 0.22          | F2 F1            | 0.532       | 0.686     |              | mg/L |   | 87   | 59 - 112     |
| Motor Oil (>C24-C36) | ND            | F1               | 0.532       | 0.799     |              | mg/L |   | 115  | 64 - 120     |

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: 580-69315-D-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 249698**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 249549**

| Surrogate           | MS MS     |           | Limits   |
|---------------------|-----------|-----------|----------|
|                     | %Recovery | Qualifier |          |
| <i>o</i> -Terphenyl | 90        |           | 43 - 119 |

**Lab Sample ID: 580-69315-D-3-B MSD**  
**Matrix: Water**  
**Analysis Batch: 249698**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 249549**

| Analyte              | Sample Result | Sample Qualifier | Spike Added | MSD MSD |           | Unit | D | %Rec | %Rec.    |     | RPD | Limit |
|----------------------|---------------|------------------|-------------|---------|-----------|------|---|------|----------|-----|-----|-------|
|                      |               |                  |             | Result  | Qualifier |      |   |      | Limits   | RPD |     |       |
| #2 Diesel (C10-C24)  | 0.22          | F2 F1            | 0.553       | 0.910   | F1 F2     | mg/L |   | 124  | 59 - 112 | 28  | 16  |       |
| Motor Oil (>C24-C36) | ND            | F1               | 0.553       | 0.940   | F1        | mg/L |   | 136  | 64 - 120 | 16  | 17  |       |

| Surrogate           | MSD MSD   |           | Limits   |
|---------------------|-----------|-----------|----------|
|                     | %Recovery | Qualifier |          |
| <i>o</i> -Terphenyl | 95        |           | 43 - 119 |

**Lab Sample ID: MB 580-249960/1-A**  
**Matrix: Water**  
**Analysis Batch: 249977**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 249960**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
|                      |           |              |      |     |      |   |                |                |         |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 06/29/17 15:06 | 06/29/17 18:33 | 1       |

| Surrogate           | MB MB     |           | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|-----------|----------|----------------|----------------|---------|
|                     | %Recovery | Qualifier |          |                |                |         |
| <i>o</i> -Terphenyl | 82        |           | 43 - 119 | 06/29/17 15:06 | 06/29/17 18:33 | 1       |

**Lab Sample ID: LCS 580-249960/2-A**  
**Matrix: Water**  
**Analysis Batch: 249977**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 249960**

| Analyte              | Spike Added | LCS LCS |           | Unit | D | %Rec | %Rec.    |     |
|----------------------|-------------|---------|-----------|------|---|------|----------|-----|
|                      |             | Result  | Qualifier |      |   |      | Limits   | RPD |
| #2 Diesel (C10-C24)  | 0.500       | 0.410   |           | mg/L |   | 82   | 59 - 112 |     |
| Motor Oil (>C24-C36) | 0.500       | 0.485   |           | mg/L |   | 97   | 64 - 120 |     |

| Surrogate           | LCS LCS   |           | Limits   |
|---------------------|-----------|-----------|----------|
|                     | %Recovery | Qualifier |          |
| <i>o</i> -Terphenyl | 94        |           | 43 - 119 |

**Lab Sample ID: LCSD 580-249960/3-A**  
**Matrix: Water**  
**Analysis Batch: 249977**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 249960**

| Analyte              | Spike Added | LCSD LCSD |           | Unit | D | %Rec | %Rec.    |     | RPD | Limit |
|----------------------|-------------|-----------|-----------|------|---|------|----------|-----|-----|-------|
|                      |             | Result    | Qualifier |      |   |      | Limits   | RPD |     |       |
| #2 Diesel (C10-C24)  | 0.500       | 0.396     |           | mg/L |   | 79   | 59 - 112 | 4   | 16  |       |
| Motor Oil (>C24-C36) | 0.500       | 0.488     |           | mg/L |   | 98   | 64 - 120 | 1   | 17  |       |

| Surrogate           | LCSD LCSD |           | Limits   |
|---------------------|-----------|-----------|----------|
|                     | %Recovery | Qualifier |          |
| <i>o</i> -Terphenyl | 90        |           | 43 - 119 |

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: 580-69367-D-2-B MS**

**Matrix: Water**

**Analysis Batch: 249977**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

**Prep Batch: 249960**

| Analyte              | Sample    | Sample    | Spike     | MS     |           | Unit | D | %Rec | %Rec.    |  |  |
|----------------------|-----------|-----------|-----------|--------|-----------|------|---|------|----------|--|--|
|                      | Result    | Qualifier | Added     | Result | Qualifier |      |   |      | Limits   |  |  |
| #2 Diesel (C10-C24)  | 2.7       |           | 0.482     | 3.09   | 4         | mg/L |   | 72   | 59 - 112 |  |  |
| Motor Oil (>C24-C36) | 1.3       |           | 0.482     | 1.69   |           | mg/L |   | 72   | 64 - 120 |  |  |
|                      |           | <i>MS</i> | <i>MS</i> |        |           |      |   |      |          |  |  |
| Surrogate            | %Recovery | Qualifier | Limits    |        |           |      |   |      |          |  |  |
| <i>o-Terphenyl</i>   | 76        |           | 43 - 119  |        |           |      |   |      |          |  |  |

**Lab Sample ID: 580-69367-D-2-C MSD**

**Matrix: Water**

**Analysis Batch: 249977**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

**Prep Batch: 249960**

| Analyte              | Sample    | Sample     | Spike      | MSD    |           | Unit | D | %Rec | %Rec.    |  | RPD |       |
|----------------------|-----------|------------|------------|--------|-----------|------|---|------|----------|--|-----|-------|
|                      | Result    | Qualifier  | Added      | Result | Qualifier |      |   |      | Limits   |  | RPD | Limit |
| #2 Diesel (C10-C24)  | 2.7       |            | 0.485      | 3.11   | 4         | mg/L |   | 75   | 59 - 112 |  | 1   | 16    |
| Motor Oil (>C24-C36) | 1.3       |            | 0.485      | 1.67   |           | mg/L |   | 66   | 64 - 120 |  | 1   | 17    |
|                      |           | <i>MSD</i> | <i>MSD</i> |        |           |      |   |      |          |  |     |       |
| Surrogate            | %Recovery | Qualifier  | Limits     |        |           |      |   |      |          |  |     |       |
| <i>o-Terphenyl</i>   | 82        |            | 43 - 119   |        |           |      |   |      |          |  |     |       |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

**Client Sample ID: LAG\_EFF\_062217**

**Lab Sample ID: 580-69441-1**

Date Collected: 06/22/17 07:45

Matrix: Water

Date Received: 06/23/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 249549       | 06/26/17 14:27       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 249698       | 06/28/17 04:38       | KZ1     | TAL SEA |

**Client Sample ID: LAG\_INF\_062217**

**Lab Sample ID: 580-69441-2**

Date Collected: 06/22/17 07:50

Matrix: Water

Date Received: 06/23/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 249549       | 06/26/17 14:27       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 249698       | 06/28/17 05:00       | KZ1     | TAL SEA |

**Client Sample ID: LEAD\_INF\_062217**

**Lab Sample ID: 580-69441-3**

Date Collected: 06/22/17 07:55

Matrix: Water

Date Received: 06/23/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 249960       | 06/29/17 15:06       |         | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 249977       | 06/29/17 19:40       | KZ1     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69441-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-69441-1   | LAG_EFF_062217   | Water  | 06/22/17 07:45 | 06/23/17 17:30 |
| 580-69441-2   | LAG_INF_062217   | Water  | 06/22/17 07:50 | 06/23/17 17:30 |
| 580-69441-3   | LEAD_INF_062217  | Water  | 06/22/17 07:55 | 06/23/17 17:30 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-69441-1

**Login Number: 69441**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Gall, Brandon A**

| Question   | Answer | Comment                                  |
|--|--------|--|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    | Lab does not accept radioactive samples. |
| The cooler's custody seal, if present, is intact.  | N/A    | Not present                              |
| Sample custody seals, if present, are intact.  | True   |  |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |  |
| Samples were received on ice.  | True   |  |
| Cooler Temperature is acceptable.  | True   |  |
| Cooler Temperature is recorded.  | True   |  |
| COC is present.  | True   |  |
| COC is filled out in ink and legible.  | True   |  |
| COC is filled out with all pertinent information.  | True   |  |
| Is the Field Sampler's name present on COC?  | True   |  |
| There are no discrepancies between the containers received and the COC.                  | True   |  |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |  |
| Sample containers have legible labels.   | True   |  |
| Containers are not broken or leaking.  | True   |  |
| Sample collection date/times are provided.   | True   |  |
| Appropriate sample containers are used.  | True   |  |
| Sample bottles are completely filled.  | True   |  |
| Sample Preservation Verified.  | True   |  |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |  |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |  |
| Multiphasic samples are not present.   | True   |  |
| Samples do not require splitting or compositing.   | True   |  |
| Residual Chlorine Checked.   | N/A    |  |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-69668-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining

*Kristine D. Allen*

Authorized for release by:  
7/10/2017 2:28:26 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

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**Job ID: 580-69668-1**

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**Laboratory: TestAmerica Seattle**

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**Narrative**

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**Job Narrative  
580-69668-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/30/2017 1:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

**GC Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

**Client Sample ID: LAG\_EFF\_062917**

**Lab Sample ID: 580-69668-1**

**Date Collected: 06/29/17 08:30**

**Matrix: Water**

**Date Received: 06/30/17 13:50**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 07/07/17 08:19 | 07/07/17 19:29 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.25     |     | mg/L |   | 07/07/17 08:19 | 07/07/17 19:29 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 91        |           | 43 - 119 |     |      |   | 07/07/17 08:19 | 07/07/17 19:29 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

**Client Sample ID: LAG\_INF\_062917**

**Lab Sample ID: 580-69668-2**

**Date Collected: 06/29/17 08:35**

**Matrix: Water**

**Date Received: 06/30/17 13:50**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.42</b> |           | 0.11     |     | mg/L |   | 07/07/17 08:19 | 07/07/17 19:51 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.25     |     | mg/L |   | 07/07/17 08:19 | 07/07/17 19:51 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 89          |           | 43 - 119 |     |      |   | 07/07/17 08:19 | 07/07/17 19:51 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

**Client Sample ID: LEAD\_INF\_062917**

**Lab Sample ID: 580-69668-3**

**Date Collected: 06/29/17 08:40**

**Matrix: Water**

**Date Received: 06/30/17 13:50**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.1       |           | 0.11     |     | mg/L |   | 07/07/17 08:19 | 07/07/17 20:14 | 1       |
| Motor Oil (>C24-C36) | 0.86      |           | 0.25     |     | mg/L |   | 07/07/17 08:19 | 07/07/17 20:14 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 79        |           | 43 - 119 |     |      |   | 07/07/17 08:19 | 07/07/17 20:14 | 1       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-250499/1-A**

**Matrix: Water**

**Analysis Batch: 250580**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 250499**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 07/07/17 08:19 | 07/07/17 18:20 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 07/07/17 08:19 | 07/07/17 18:20 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 100          |              | 43 - 119 | 07/07/17 08:19 | 07/07/17 18:20 | 1       |

**Lab Sample ID: LCS 580-250499/2-A**

**Matrix: Water**

**Analysis Batch: 250580**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 250499**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.421      |               | mg/L |   | 84   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.473      |               | mg/L |   | 95   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 80            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-250499/3-A**

**Matrix: Water**

**Analysis Batch: 250580**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 250499**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.457       |                | mg/L |   | 91   | 59 - 112 | 8   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.545       |                | mg/L |   | 109  | 64 - 120 | 14  | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 84             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

**Client Sample ID: LAG\_EFF\_062917**

**Lab Sample ID: 580-69668-1**

Date Collected: 06/29/17 08:30

Matrix: Water

Date Received: 06/30/17 13:50

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 250499       | 07/07/17 08:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 250580       | 07/07/17 19:29       | CJ      | TAL SEA |

**Client Sample ID: LAG\_INF\_062917**

**Lab Sample ID: 580-69668-2**

Date Collected: 06/29/17 08:35

Matrix: Water

Date Received: 06/30/17 13:50

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 250499       | 07/07/17 08:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 250580       | 07/07/17 19:51       | CJ      | TAL SEA |

**Client Sample ID: LEAD\_INF\_062917**

**Lab Sample ID: 580-69668-3**

Date Collected: 06/29/17 08:40

Matrix: Water

Date Received: 06/30/17 13:50

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 250499       | 07/07/17 08:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 250580       | 07/07/17 20:14       | CJ      | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69668-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-69668-1   | LAG_EFF_062917   | Water  | 06/29/17 08:30 | 06/30/17 13:50 |
| 580-69668-2   | LAG_INF_062917   | Water  | 06/29/17 08:35 | 06/30/17 13:50 |
| 580-69668-3   | LEAD_INF_062917  | Water  | 06/29/17 08:40 | 06/30/17 13:50 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-69668-1

**Login Number: 69668**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Ponce-McDermott, Monica**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is <=/ background as measured by a survey meter. | True   |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| Sample custody seals, if present, are intact.                                    | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | False  | No name |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.   | N/A    |         |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-69755-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining

*Kristine D. Allen*

Authorized for release by:  
7/17/2017 10:45:12 AM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

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**Job ID: 580-69755-1**

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**Laboratory: TestAmerica Seattle**

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## Narrative

**Job Narrative**  
**580-69755-1**

### Comments

No additional comments.

### Receipt

The samples were received on 7/7/2017 4:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.1° C.

### GC Semi VOA

Method(s) NWTPH-Dx: Surrogate recovery for the following sample was outside control limits: LEAD\_INF\_070617 (580-69755-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

## Qualifiers

### GC Semi VOA

| Qualifier | Qualifier Description               |
|-----------|-------------------------------------|
| X         | Surrogate is outside control limits |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

**Client Sample ID: LAG\_EFF\_070617**

**Lab Sample ID: 580-69755-1**

**Date Collected: 07/06/17 15:35**

**Matrix: Water**

**Date Received: 07/07/17 16:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.2       |           | 0.11     |     | mg/L |   | 07/12/17 10:19 | 07/14/17 09:00 | 1       |
| Motor Oil (>C24-C36) | 1.8       |           | 0.24     |     | mg/L |   | 07/12/17 10:19 | 07/14/17 09:00 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 85        |           | 43 - 119 |     |      |   | 07/12/17 10:19 | 07/14/17 09:00 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

**Client Sample ID: LAG\_INF\_070617**

**Lab Sample ID: 580-69755-2**

**Date Collected: 07/06/17 15:40**

**Matrix: Water**

**Date Received: 07/07/17 16:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.9       |           | 0.11     |     | mg/L |   | 07/12/17 10:19 | 07/14/17 09:22 | 1       |
| Motor Oil (>C24-C36) | 2.7       |           | 0.24     |     | mg/L |   | 07/12/17 10:19 | 07/14/17 09:22 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 85        |           | 43 - 119 |     |      |   | 07/12/17 10:19 | 07/14/17 09:22 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

**Client Sample ID: LEAD\_INF\_070617**

**Lab Sample ID: 580-69755-3**

**Date Collected: 07/06/17 15:45**

**Matrix: Water**

**Date Received: 07/07/17 16:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte             | Result           | Qualifier        | RL            | MDL | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|---------------------|------------------|------------------|---------------|-----|------|---|-----------------|-----------------|----------------|
| #2 Diesel (C10-C24) | 9.6              |                  | 0.11          |     | mg/L |   | 07/12/17 10:19  | 07/14/17 09:43  | 1              |
| <i>Surrogate</i>    | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |     |      |   | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| <i>o-Terphenyl</i>  | 20               | X                | 43 - 119      |     |      |   | 07/12/17 10:19  | 07/14/17 09:43  | 1              |

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - DL**

| Analyte              | Result | Qualifier | RL  | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Motor Oil (>C24-C36) | 12     |           | 1.2 |     | mg/L |   | 07/12/17 10:19 | 07/14/17 13:11 | 5       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-250930/1-A**  
**Matrix: Water**  
**Analysis Batch: 251125**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 250930**

| Analyte              | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND           |              | 0.11     |     | mg/L |   | 07/12/17 10:19 | 07/13/17 15:31 | 1       |
| Motor Oil (>C24-C36) | ND           |              | 0.25     |     | mg/L |   | 07/12/17 10:19 | 07/13/17 15:31 | 1       |
| Surrogate            | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 82           |              | 43 - 119 |     |      |   | 07/12/17 10:19 | 07/13/17 15:31 | 1       |

**Lab Sample ID: LCS 580-250930/2-A**  
**Matrix: Water**  
**Analysis Batch: 251125**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 250930**

| Analyte              | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | Limits   |  |  |
|----------------------|---------------|---------------|---------------|------|---|------|----------|--|--|
| #2 Diesel (C10-C24)  | 0.500         | 0.404         |               | mg/L |   | 81   | 59 - 112 |  |  |
| Motor Oil (>C24-C36) | 0.500         | 0.486         |               | mg/L |   | 97   | 64 - 120 |  |  |
| Surrogate            | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |          |  |  |
| <i>o</i> -Terphenyl  | 74            |               | 43 - 119      |      |   |      |          |  |  |

**Lab Sample ID: LCSD 580-250930/3-A**  
**Matrix: Water**  
**Analysis Batch: 251125**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 250930**

| Analyte              | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|----------------|----------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500          | 0.427          |                | mg/L |   | 85   | 59 - 112 | 6   | 16    |
| Motor Oil (>C24-C36) | 0.500          | 0.495          |                | mg/L |   | 99   | 64 - 120 | 2   | 17    |
| Surrogate            | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |          |     |       |
| <i>o</i> -Terphenyl  | 80             |                | 43 - 119       |      |   |      |          |     |       |

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

**Client Sample ID: LAG\_EFF\_070617**

**Date Collected: 07/06/17 15:35**

**Date Received: 07/07/17 16:15**

**Lab Sample ID: 580-69755-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 250930       | 07/12/17 10:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 251204       | 07/14/17 09:00       | JCP     | TAL SEA |

**Client Sample ID: LAG\_INF\_070617**

**Date Collected: 07/06/17 15:40**

**Date Received: 07/07/17 16:15**

**Lab Sample ID: 580-69755-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 250930       | 07/12/17 10:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 251204       | 07/14/17 09:22       | JCP     | TAL SEA |

**Client Sample ID: LEAD\_INF\_070617**

**Date Collected: 07/06/17 15:45**

**Date Received: 07/07/17 16:15**

**Lab Sample ID: 580-69755-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 250930       | 07/12/17 10:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 251204       | 07/14/17 09:43       | JCP     | TAL SEA |
| Total/NA  | Prep       | 3510C        | DL  |                 | 250930       | 07/12/17 10:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     | DL  | 5               | 251204       | 07/14/17 13:11       | JCP     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69755-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-69755-1   | LAG_EFF_070617   | Water  | 07/06/17 15:35 | 07/07/17 16:15 |
| 580-69755-2   | LAG_INF_070617   | Water  | 07/06/17 15:40 | 07/07/17 16:15 |
| 580-69755-3   | LEAD_INF_070617  | Water  | 07/06/17 15:45 | 07/07/17 16:15 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-69755-1

**Login Number: 69755**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

| Question  | Answer | Comment |
|---|--------|---------|
| Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.   | True   |         |
| Sample custody seals, if present, are intact.   | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.                      | True   |         |
| Samples were received on ice.   | True   |         |
| Cooler Temperature is acceptable.   | True   |         |
| Cooler Temperature is recorded.   | True   |         |
| COC is present.   | True   |         |
| COC is filled out in ink and legible.   | True   |         |
| COC is filled out with all pertinent information.   | True   |         |
| Is the Field Sampler's name present on COC?   | True   |         |
| There are no discrepancies between the containers received and the COC.                             | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)                       | True   |         |
| Sample containers have legible labels.  | True   |         |
| Containers are not broken or leaking.   | True   |         |
| Sample collection date/times are provided.  | True   |         |
| Appropriate sample containers are used.   | True   |         |
| Sample bottles are completely filled.   | True   |         |
| Sample Preservation Verified.   | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs                    | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4"). | N/A    |         |
| Multiphasic samples are not present.  | True   |         |
| Samples do not require splitting or compositing.  | True   |         |
| Residual Chlorine Checked.  | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-69951-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining

*Kristine D. Allen*

Authorized for release by:  
7/20/2017 12:06:18 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

**Job ID: 580-69951-1**

**Laboratory: TestAmerica Seattle**

## Narrative

**Job Narrative  
580-69951-1**

## Comments

No additional comments.

## Receipt

The samples were received on 7/17/2017 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

## Receipt Exceptions

The reference method requires samples to be preserved to a pH of 2 or less. The following samples were received unpreserved: LAG\_EFF\_071417 (580-69951-1), LAG\_INF\_071417 (580-69951-2) and LEAD\_INF\_071417 (580-69951-3). The samples were preserved to the appropriate pH in the laboratory with hydrochloric acid from lot 55320.

The chain of custody lacks the sampling times for the samples. The samples are logged in per container labels. LAG\_EFF\_071417 (580-69951-1), LAG\_INF\_071417 (580-69951-2) and LEAD\_INF\_071417 (580-69951-3)

## GC Semi VOA

Method(s) NWTPH-Dx: Surrogate recovery for the following sample was outside control limits: LEAD\_INF\_071417 (580-69951-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

## Qualifiers

### GC Semi VOA

| Qualifier | Qualifier Description               |
|-----------|-------------------------------------|
| X         | Surrogate is outside control limits |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

**Client Sample ID: LAG\_EFF\_071417**

**Lab Sample ID: 580-69951-1**

**Date Collected: 07/14/17 12:05**

**Matrix: Water**

**Date Received: 07/17/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result           | Qualifier        | RL            | MDL | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|----------------------------|------------------|------------------|---------------|-----|------|---|-----------------|-----------------|----------------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.16</b>      |                  | 0.10          |     | mg/L |   | 07/19/17 08:34  | 07/19/17 18:45  | 1              |
| Motor Oil (>C24-C36)       | ND               |                  | 0.24          |     | mg/L |   | 07/19/17 08:34  | 07/19/17 18:45  | 1              |
| <b>Surrogate</b>           | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |     |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| <i>o-Terphenyl</i>         | 93               |                  | 43 - 119      |     |      |   | 07/19/17 08:34  | 07/19/17 18:45  | 1              |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

**Client Sample ID: LAG\_INF\_071417**

**Lab Sample ID: 580-69951-2**

**Date Collected: 07/14/17 12:00**

**Matrix: Water**

**Date Received: 07/17/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.73      |           | 0.10     |     | mg/L |   | 07/19/17 08:34 | 07/19/17 19:06 | 1       |
| Motor Oil (>C24-C36) | 0.86      |           | 0.24     |     | mg/L |   | 07/19/17 08:34 | 07/19/17 19:06 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 87        |           | 43 - 119 |     |      |   | 07/19/17 08:34 | 07/19/17 19:06 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

**Client Sample ID: LEAD\_INF\_071417**

**Lab Sample ID: 580-69951-3**

**Date Collected: 07/14/17 11:50**

**Matrix: Water**

**Date Received: 07/17/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 6.9       |           | 0.10     |     | mg/L |   | 07/19/17 08:34 | 07/19/17 19:27 | 1       |
| Motor Oil (>C24-C36) | 8.7       |           | 0.24     |     | mg/L |   | 07/19/17 08:34 | 07/19/17 19:27 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 183       | X         | 43 - 119 |     |      |   | 07/19/17 08:34 | 07/19/17 19:27 | 1       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-251533/1-A**

**Matrix: Water**

**Analysis Batch: 251559**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 251533**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 07/19/17 08:34 | 07/19/17 17:40 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 07/19/17 08:34 | 07/19/17 17:40 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 112          |              | 43 - 119 | 07/19/17 08:34 | 07/19/17 17:40 | 1       |

**Lab Sample ID: LCS 580-251533/2-A**

**Matrix: Water**

**Analysis Batch: 251559**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 251533**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.497      |               | mg/L |   | 99   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.546      |               | mg/L |   | 109  | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 98            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-251533/3-A**

**Matrix: Water**

**Analysis Batch: 251559**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 251533**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.499       |                | mg/L |   | 100  | 59 - 112 | 0   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.548       |                | mg/L |   | 110  | 64 - 120 | 0   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 96             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

**Client Sample ID: LAG\_EFF\_071417**

**Lab Sample ID: 580-69951-1**

Date Collected: 07/14/17 12:05

Matrix: Water

Date Received: 07/17/17 15:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 251533       | 07/19/17 08:34       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 251559       | 07/19/17 18:45       | TL1     | TAL SEA |

**Client Sample ID: LAG\_INF\_071417**

**Lab Sample ID: 580-69951-2**

Date Collected: 07/14/17 12:00

Matrix: Water

Date Received: 07/17/17 15:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 251533       | 07/19/17 08:34       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 251559       | 07/19/17 19:06       | TL1     | TAL SEA |

**Client Sample ID: LEAD\_INF\_071417**

**Lab Sample ID: 580-69951-3**

Date Collected: 07/14/17 11:50

Matrix: Water

Date Received: 07/17/17 15:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 251533       | 07/19/17 08:34       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 251559       | 07/19/17 19:27       | TL1     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-69951-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-69951-1   | LAG_EFF_071417   | Water  | 07/14/17 12:05 | 07/17/17 15:15 |
| 580-69951-2   | LAG_INF_071417   | Water  | 07/14/17 12:00 | 07/17/17 15:15 |
| 580-69951-3   | LEAD_INF_071417  | Water  | 07/14/17 11:50 | 07/17/17 15:15 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-69951-1

**Login Number: 69951**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

| Question   | Answer | Comment  |
|--|--------|--|
| Radioactivity wasn't checked or is <=/ background as measured by a survey meter. | True   |  |
| The cooler's custody seal, if present, is intact.                                | True   |  |
| Sample custody seals, if present, are intact.                                    | True   |  |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |  |
| Samples were received on ice.  | True   |  |
| Cooler Temperature is acceptable.  | True   |  |
| Cooler Temperature is recorded.  | True   |  |
| COC is present.  | True   |  |
| COC is filled out in ink and legible.  | True   |  |
| COC is filled out with all pertinent information.                                | False  | No sample date and/or time on COC, logged in per container labels. |
| Is the Field Sampler's name present on COC?                                      | True   |  |
| There are no discrepancies between the containers received and the COC.          | True   |  |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |  |
| Sample containers have legible labels.   | True   |  |
| Containers are not broken or leaking.  | True   |  |
| Sample collection date/times are provided.                                       | True   |  |
| Appropriate sample containers are used.  | True   |  |
| Sample bottles are completely filled.  | True   |  |
| Sample Preservation Verified.  | False  | Refer to Job Narrative for details.                                |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |  |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |  |
| Multiphasic samples are not present.   | True   |  |
| Samples do not require splitting or compositing.                                 | True   |  |
| Residual Chlorine Checked.   | N/A    |  |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-70110-1

Client Project/Site: BNSF Skykomish HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
7/26/2017 5:09:59 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

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**Job ID: 580-70110-1**

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**Laboratory: TestAmerica Seattle**

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**Narrative**

**Job Narrative**  
**580-70110-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 7/24/2017 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

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## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

**Client Sample ID: LAG\_EFF\_072117**

**Lab Sample ID: 580-70110-1**

**Date Collected: 07/21/17 12:30**

**Matrix: Water**

**Date Received: 07/24/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result           | Qualifier        | RL            | MDL | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|----------------------------|------------------|------------------|---------------|-----|------|---|-----------------|-----------------|----------------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.12</b>      |                  | 0.11          |     | mg/L |   | 07/25/17 10:34  | 07/25/17 18:50  | 1              |
| Motor Oil (>C24-C36)       | ND               |                  | 0.24          |     | mg/L |   | 07/25/17 10:34  | 07/25/17 18:50  | 1              |
| <b>Surrogate</b>           | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |     |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| <i>o-Terphenyl</i>         | 94               |                  | 43 - 119      |     |      |   | 07/25/17 10:34  | 07/25/17 18:50  | 1              |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

**Client Sample ID: LAG\_INF\_072117**

**Lab Sample ID: 580-70110-2**

**Date Collected: 07/21/17 12:25**

**Matrix: Water**

**Date Received: 07/24/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 07/25/17 10:34 | 07/25/17 19:12 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 07/25/17 10:34 | 07/25/17 19:12 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 96        |           | 43 - 119 |     |      |   | 07/25/17 10:34 | 07/25/17 19:12 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

**Client Sample ID: LEAD\_INF\_072117**

**Lab Sample ID: 580-70110-3**

**Date Collected: 07/21/17 12:20**

**Matrix: Water**

**Date Received: 07/24/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 2.8       |           | 0.11     |     | mg/L |   | 07/25/17 10:34 | 07/25/17 19:35 | 1       |
| Motor Oil (>C24-C36) | 3.1       |           | 0.24     |     | mg/L |   | 07/25/17 10:34 | 07/25/17 19:35 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 107       |           | 43 - 119 |     |      |   | 07/25/17 10:34 | 07/25/17 19:35 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-252018/1-A**

**Matrix: Water**

**Analysis Batch: 252069**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 252018**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 07/25/17 08:04 | 07/25/17 16:33 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 07/25/17 08:04 | 07/25/17 16:33 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 80           |              | 43 - 119 | 07/25/17 08:04 | 07/25/17 16:33 | 1       |

**Lab Sample ID: LCS 580-252018/2-A**

**Matrix: Water**

**Analysis Batch: 252069**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 252018**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.433      |               | mg/L |   | 87   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.432      |               | mg/L |   | 86   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 92            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-252018/3-A**

**Matrix: Water**

**Analysis Batch: 252069**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 252018**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.389       |                | mg/L |   | 78   | 59 - 112 | 11  | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.418       |                | mg/L |   | 84   | 64 - 120 | 3   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 91             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

**Client Sample ID: LAG\_EFF\_072117**

**Lab Sample ID: 580-70110-1**

Date Collected: 07/21/17 12:30

Matrix: Water

Date Received: 07/24/17 15:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 252018       | 07/25/17 10:34       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 252069       | 07/25/17 18:50       | W1T     | TAL SEA |

**Client Sample ID: LAG\_INF\_072117**

**Lab Sample ID: 580-70110-2**

Date Collected: 07/21/17 12:25

Matrix: Water

Date Received: 07/24/17 15:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 252018       | 07/25/17 10:34       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 252069       | 07/25/17 19:12       | W1T     | TAL SEA |

**Client Sample ID: LEAD\_INF\_072117**

**Lab Sample ID: 580-70110-3**

Date Collected: 07/21/17 12:20

Matrix: Water

Date Received: 07/24/17 15:15

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 252018       | 07/25/17 10:34       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 252069       | 07/25/17 19:35       | W1T     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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- 10
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70110-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-70110-1   | LAG_EFF_072117   | Water  | 07/21/17 12:30 | 07/24/17 15:15 |
| 580-70110-2   | LAG_INF_072117   | Water  | 07/21/17 12:25 | 07/24/17 15:15 |
| 580-70110-3   | LEAD_INF_072117  | Water  | 07/21/17 12:20 | 07/24/17 15:15 |

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Chain of Custody Record

|  |  |  |                    |   |               |                                 |   |   |  |                                |
|--|--|--|--------------------|---|---------------|---------------------------------|---|---|--|--------------------------------|
| <b>Client Contact</b>  |  | <b>Project Manager: Andrew Vining</b>  |                    | <b>Site Contact: Russell Luiten</b>                 |               | <b>Date:</b>                    |   | <b>COC No:</b>                                    |  |                                |
| Farallon Consulting  |  | Tel/Fax: 425-295-0847  |                    | Lab Contact: Kristine Allen                         |               | Carrier:                        |   | ___ of ___ COCs                                   |  |                                |
| 975 5th Avenue Northwest   |  | <b>Analysis Turnaround Time</b>  |                    | Filtered Sample<br>NWT/PH-Dx w/o silica gel cleanup |               |                                 |   | Job No. Invoice attention to: Shane Degross, BNSF |  |                                |
| Issaquah, WA 98027   |  | Calendar (C) or Work Days (W) <u>W 5</u>   |                    |   |               |                                 |   | SDG No.   |  |                                |
| (425) 295-0800 Phone   |  | TAT if different from Below _____  |                    |   |               |                                 |   | Sampler: <i>Ryan Ostrow</i>                       |  |                                |
| (425) 295-0850 FAX   |  | <input checked="" type="checkbox"/> 2 weeks<br><input checked="" type="checkbox"/> 1 week<br><input type="checkbox"/> 2 days<br><input type="checkbox"/> 1 day |                    |   |               |                                 |   | Sample Specific Notes:                            |  |                                |
| Project Name: Skykomish School HWF   |  | WO #: TT0100-Q13   |                    |   |               |                                 |   |   |  |                                |
| <b>Sample Identification</b>   |  | <b>Sample Date</b>   | <b>Sample Time</b> | <b>Sample Type</b>                                  | <b>Matrix</b> | <b># of Cont.</b>               |   |   |  |                                |
| LAG_EFF_072117   |  | 7/21/17  | 1230               | Grab  | W             | 2                               | X   | *** See instructions below                        |  |                                |
| LAG_INF_072117   |  | ↓  | 1225               | Grab  | W             | 2                               | X   |   |  |                                |
| LEAD_INF_072117  |  | ↓  | 1220               | Grab  | W             | 2                               | X   |   |  |                                |
| RO   |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
|  |  |  |                    |   |               |                                 |   |   |  |                                |
| <b>Preservation Used:</b> 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____   |  |  |                    |   |               |                                 | 2   | 1   |  |                                |
| <b>Possible Hazard Identification</b>  |  |  |                    |   |               |                                 | <b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>   |   |  |                                |
| <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> |  |  |                    |   |               |                                 | <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |   |  |                                |
| <b>Special Instructions/QC Requirements &amp; Comments:</b> 1) No silica gel cleanup   |  |  |                    |   |               |                                 |   |   |  |                                |
| Relinquished by: <i>Ryan Ostrow</i>  |  | Company: <i>Farallon</i>   |                    | Date/Time: <i>7/24/17</i>                           |               | Received by: <i>[Signature]</i> |   | Company: <i>T/ASEK</i>                            |  | Date/Time: <i>7/24/17 1515</i> |
| Relinquished by:   |  | Company:   |                    | Date/Time:  |               | Received by:                    |   | Company:  |  | Date/Time:                     |
| Relinquished by:   |  | Company:   |                    | Date/Time:  |               | Received by:                    |   | Company:  |  | Date/Time:                     |



TB A2 Cooler Cor 1.1 Unc 1.9  
 Cooler Dsc 4.5 Blue @Lab +  
 Wet/Packs Packing Bubble  
 w/o

## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-70110-1

**Login Number: 70110**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Gall, Brandon A**

| Question   | Answer | Comment                                  |
|--|--------|--|
| Radioactivity wasn't checked or is <=/ background as measured by a survey meter. | N/A    | Lab does not accept radioactive samples. |
| The cooler's custody seal, if present, is intact.                                | N/A    | Not present                              |
| Sample custody seals, if present, are intact.                                    | True   |  |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |  |
| Samples were received on ice.  | True   |  |
| Cooler Temperature is acceptable.  | True   |  |
| Cooler Temperature is recorded.  | True   |  |
| COC is present.  | True   |  |
| COC is filled out in ink and legible.  | True   |  |
| COC is filled out with all pertinent information.                                | True   |  |
| Is the Field Sampler's name present on COC?                                      | True   |  |
| There are no discrepancies between the containers received and the COC.          | True   |  |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |  |
| Sample containers have legible labels.   | True   |  |
| Containers are not broken or leaking.  | True   |  |
| Sample collection date/times are provided.                                       | True   |  |
| Appropriate sample containers are used.  | True   |  |
| Sample bottles are completely filled.  | True   |  |
| Sample Preservation Verified.  | True   |  |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |  |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |  |
| Multiphasic samples are not present.   | True   |  |
| Samples do not require splitting or compositing.                                 | True   |  |
| Residual Chlorine Checked.   | N/A    |  |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-70252-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining

*M. Elaine Walker*

Authorized for release by:  
8/7/2017 2:30:04 PM

Elaine Walker, Project Manager II  
(253)248-4972

[elaine.walker@testamericainc.com](mailto:elaine.walker@testamericainc.com)

Designee for

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Table of Contents

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

**Job ID: 580-70252-1**

**Laboratory: TestAmerica Seattle**

## Narrative

**Job Narrative  
580-70252-1**

### Comments

No additional comments.

### Receipt

The samples were received on 7/31/2017 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6° C.

**Job Narrative  
580-70252-1**

### Comments

No additional comments.

### Receipt

The samples were received on 7/31/2017 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6° C.

### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

**Client Sample ID: LAG\_EFF\_072717**

**Lab Sample ID: 580-70252-1**

**Date Collected: 07/27/17 14:45**

**Matrix: Water**

**Date Received: 07/31/17 16:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 08/01/17 15:10 | 08/02/17 15:04 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 08/01/17 15:10 | 08/02/17 15:04 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>   | 100       |           | 43 - 119 |     |      |   | 08/01/17 15:10 | 08/02/17 15:04 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

**Client Sample ID: LAG\_INF\_072717**

**Lab Sample ID: 580-70252-2**

**Date Collected: 07/27/17 14:50**

**Matrix: Water**

**Date Received: 07/31/17 16:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.14</b> |           | 0.11     |     | mg/L |   | 08/01/17 15:10 | 08/02/17 15:27 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 08/01/17 15:10 | 08/02/17 15:27 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 103         |           | 43 - 119 |     |      |   | 08/01/17 15:10 | 08/02/17 15:27 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

**Client Sample ID: LEAD\_INF\_072717**

**Lab Sample ID: 580-70252-3**

**Date Collected: 07/27/17 14:55**

**Matrix: Water**

**Date Received: 07/31/17 16:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.59      |           | 0.11     |     | mg/L |   | 08/01/17 15:10 | 08/02/17 15:50 | 1       |
| Motor Oil (>C24-C36) | 0.36      |           | 0.25     |     | mg/L |   | 08/01/17 15:10 | 08/02/17 15:50 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 86        |           | 43 - 119 |     |      |   | 08/01/17 15:10 | 08/02/17 15:50 | 1       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-252629/1-A**

**Matrix: Water**

**Analysis Batch: 252737**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 252629**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 08/01/17 08:30 | 08/02/17 10:10 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 08/01/17 08:30 | 08/02/17 10:10 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 91           |              | 43 - 119 | 08/01/17 08:30 | 08/02/17 10:10 | 1       |

**Lab Sample ID: LCS 580-252629/2-A**

**Matrix: Water**

**Analysis Batch: 252737**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 252629**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.481      |               | mg/L |   | 96   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.492      |               | mg/L |   | 98   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 88            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-252629/3-A**

**Matrix: Water**

**Analysis Batch: 252737**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 252629**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.485       |                | mg/L |   | 97   | 59 - 112 | 1   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.492       |                | mg/L |   | 98   | 64 - 120 | 0   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 83             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

**Client Sample ID: LAG\_EFF\_072717**

**Date Collected: 07/27/17 14:45**

**Date Received: 07/31/17 16:45**

**Lab Sample ID: 580-70252-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 252629       | 08/01/17 15:10       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 252737       | 08/02/17 15:04       | W1T     | TAL SEA |

**Client Sample ID: LAG\_INF\_072717**

**Date Collected: 07/27/17 14:50**

**Date Received: 07/31/17 16:45**

**Lab Sample ID: 580-70252-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 252629       | 08/01/17 15:10       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 252737       | 08/02/17 15:27       | W1T     | TAL SEA |

**Client Sample ID: LEAD\_INF\_072717**

**Date Collected: 07/27/17 14:55**

**Date Received: 07/31/17 16:45**

**Lab Sample ID: 580-70252-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 252629       | 08/01/17 15:10       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 252737       | 08/02/17 15:50       | W1T     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70252-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-70252-1   | LAG_EFF_072717   | Water  | 07/27/17 14:45 | 07/31/17 16:45 |
| 580-70252-2   | LAG_INF_072717   | Water  | 07/27/17 14:50 | 07/31/17 16:45 |
| 580-70252-3   | LEAD_INF_072717  | Water  | 07/27/17 14:55 | 07/31/17 16:45 |

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# Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-70252-1

**Login Number: 70252**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Ponce-McDermott, Monica**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-70415-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
8/15/2017 11:00:00 AM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

---

**Job ID: 580-70415-1**

---

**Laboratory: TestAmerica Seattle**

## Narrative

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**Job Narrative  
580-70415-1**

### Comments

No additional comments.

### Receipt

The samples were received on 8/7/2017 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_INF\_080317 (580-70415-2) and Lead\_INF\_080317 (580-70415-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

**Client Sample ID: LAG\_EFF\_080317**

**Lab Sample ID: 580-70415-1**

**Date Collected: 08/03/17 15:25**

**Matrix: Water**

**Date Received: 08/07/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 08/10/17 14:37 | 08/12/17 16:52 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 08/10/17 14:37 | 08/12/17 16:52 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 82        |           | 43 - 119 |     |      |   | 08/10/17 14:37 | 08/12/17 16:52 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

**Client Sample ID: LAG\_INF\_080317**

**Lab Sample ID: 580-70415-2**

**Date Collected: 08/03/17 15:30**

**Matrix: Water**

**Date Received: 08/07/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.18</b> |           | 0.11     |     | mg/L |   | 08/10/17 14:37 | 08/12/17 17:23 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 08/10/17 14:37 | 08/12/17 17:23 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 90          |           | 43 - 119 |     |      |   | 08/10/17 14:37 | 08/12/17 17:23 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

**Client Sample ID: Lead\_INF\_080317**

**Lab Sample ID: 580-70415-3**

Date Collected: 08/03/17 15:35

Matrix: Water

Date Received: 08/07/17 17:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte             | Result           | Qualifier        | RL            | MDL | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|---------------------|------------------|------------------|---------------|-----|------|---|-----------------|-----------------|----------------|
| #2 Diesel (C10-C24) | 1.0              |                  | 0.11          |     | mg/L |   | 08/10/17 14:37  | 08/12/17 17:53  | 1              |
| <i>Surrogate</i>    | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |     |      |   | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| <i>o-Terphenyl</i>  | 91               |                  | 43 - 119      |     |      |   | 08/10/17 14:37  | 08/12/17 17:53  | 1              |

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - DL**

| Analyte              | Result           | Qualifier        | RL            | MDL | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|----------------------|------------------|------------------|---------------|-----|------|---|-----------------|-----------------|----------------|
| Motor Oil (>C24-C36) | 1.1              |                  | 0.48          |     | mg/L |   | 08/10/17 14:37  | 08/13/17 23:16  | 2              |
| <i>Surrogate</i>     | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |     |      |   | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| <i>o-Terphenyl</i>   | 113              |                  | 43 - 119      |     |      |   | 08/10/17 14:37  | 08/13/17 23:16  | 2              |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-253402/1-A**

**Matrix: Water**

**Analysis Batch: 253591**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 253402**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 08/10/17 14:37 | 08/12/17 15:22 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 08/10/17 14:37 | 08/12/17 15:22 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 87           |              | 43 - 119 | 08/10/17 14:37 | 08/12/17 15:22 | 1       |

**Lab Sample ID: LCS 580-253402/2-A**

**Matrix: Water**

**Analysis Batch: 253591**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 253402**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.420      |               | mg/L |   | 84   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.499      |               | mg/L |   | 100  | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 98            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-253402/3-A**

**Matrix: Water**

**Analysis Batch: 253591**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 253402**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.411       |                | mg/L |   | 82   | 59 - 112 | 2   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.492       |                | mg/L |   | 98   | 64 - 120 | 2   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 95             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

**Client Sample ID: LAG\_EFF\_080317**

**Lab Sample ID: 580-70415-1**

Date Collected: 08/03/17 15:25

Matrix: Water

Date Received: 08/07/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 253402       | 08/10/17 14:37       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 253591       | 08/12/17 16:52       | ADB     | TAL SEA |

**Client Sample ID: LAG\_INF\_080317**

**Lab Sample ID: 580-70415-2**

Date Collected: 08/03/17 15:30

Matrix: Water

Date Received: 08/07/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 253402       | 08/10/17 14:37       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 253591       | 08/12/17 17:23       | ADB     | TAL SEA |

**Client Sample ID: Lead\_INF\_080317**

**Lab Sample ID: 580-70415-3**

Date Collected: 08/03/17 15:35

Matrix: Water

Date Received: 08/07/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 253402       | 08/10/17 14:37       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 253591       | 08/12/17 17:53       | ADB     | TAL SEA |
| Total/NA  | Prep       | 3510C        | DL  |                 | 253402       | 08/10/17 14:37       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     | DL  | 2               | 253595       | 08/13/17 23:16       | ADB     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70415-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-70415-1   | LAG_EFF_080317   | Water  | 08/03/17 15:25 | 08/07/17 17:30 |
| 580-70415-2   | LAG_INF_080317   | Water  | 08/03/17 15:30 | 08/07/17 17:30 |
| 580-70415-3   | Lead_INF_080317  | Water  | 08/03/17 15:35 | 08/07/17 17:30 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-70415-1

**Login Number: 70415**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-70549-1

Client Project/Site: BNSF Skykomish HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Gerald Portele



Authorized for release by:  
8/16/2017 5:30:07 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

**Job ID: 580-70549-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-70549-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 8/11/2017 2:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.1° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LEAD\_INF\_081017 (580-70549-4).

Method(s) NWTPH-Dx: The following sample was diluted to bring the concentration of target analytes within the calibration range: LEAD\_INF\_081017 (580-70549-4) at 5.0. Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

**Client Sample ID: LAG\_EFF\_081017**

**Lab Sample ID: 580-70549-1**

**Date Collected: 08/10/17 08:30**

**Matrix: Water**

**Date Received: 08/11/17 14:00**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 08/15/17 08:17 | 08/16/17 12:23 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.25     |     | mg/L |   | 08/15/17 08:17 | 08/16/17 12:23 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 101       |           | 43 - 119 |     |      |   | 08/15/17 08:17 | 08/16/17 12:23 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

**Client Sample ID: LAG\_INF\_081017**

**Lab Sample ID: 580-70549-2**

**Date Collected: 08/10/17 08:35**

**Matrix: Water**

**Date Received: 08/11/17 14:00**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.14</b> |           | 0.11     |     | mg/L |   | 08/15/17 08:17 | 08/16/17 13:22 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 08/15/17 08:17 | 08/16/17 13:22 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 90          |           | 43 - 119 |     |      |   | 08/15/17 08:17 | 08/16/17 13:22 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

**Client Sample ID: MID\_INF\_081017**

**Lab Sample ID: 580-70549-3**

**Date Collected: 08/10/17 08:40**

**Matrix: Water**

**Date Received: 08/11/17 14:00**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result           | Qualifier        | RL            | MDL | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|----------------------------|------------------|------------------|---------------|-----|------|---|-----------------|-----------------|----------------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.62</b>      |                  | 0.11          |     | mg/L |   | 08/15/17 08:17  | 08/16/17 12:43  | 1              |
| Motor Oil (>C24-C36)       | ND               |                  | 0.24          |     | mg/L |   | 08/15/17 08:17  | 08/16/17 12:43  | 1              |
| <b>Surrogate</b>           | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |     |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| <i>o-Terphenyl</i>         | 83               |                  | 43 - 119      |     |      |   | 08/15/17 08:17  | 08/16/17 12:43  | 1              |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

**Client Sample ID: LEAD\_INF\_081017**

**Lab Sample ID: 580-70549-4**

**Date Collected: 08/10/17 08:45**

**Matrix: Water**

**Date Received: 08/11/17 14:00**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 2.3       |           | 0.55     |     | mg/L |   | 08/15/17 08:17 | 08/16/17 13:43 | 5       |
| Motor Oil (>C24-C36) | 2.5       |           | 1.3      |     | mg/L |   | 08/15/17 08:17 | 08/16/17 13:43 | 5       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 67        |           | 43 - 119 |     |      |   | 08/15/17 08:17 | 08/16/17 13:43 | 5       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-253710/1-A**

**Matrix: Water**

**Analysis Batch: 253814**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 253710**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 08/15/17 08:17 | 08/16/17 10:19 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 08/15/17 08:17 | 08/16/17 10:19 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 97           |              | 43 - 119 | 08/15/17 08:17 | 08/16/17 10:19 | 1       |

**Lab Sample ID: LCS 580-253710/2-A**

**Matrix: Water**

**Analysis Batch: 253814**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 253710**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.448      |               | mg/L |   | 90   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.501      |               | mg/L |   | 100  | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 89            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-253710/3-A**

**Matrix: Water**

**Analysis Batch: 253814**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 253710**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.457       |                | mg/L |   | 91   | 59 - 112 | 2   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.524       |                | mg/L |   | 105  | 64 - 120 | 4   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 94             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

**Client Sample ID: LAG\_EFF\_081017**

**Lab Sample ID: 580-70549-1**

Date Collected: 08/10/17 08:30

Matrix: Water

Date Received: 08/11/17 14:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 253710       | 08/15/17 08:17       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 253814       | 08/16/17 12:23       | ADB     | TAL SEA |

**Client Sample ID: LAG\_INF\_081017**

**Lab Sample ID: 580-70549-2**

Date Collected: 08/10/17 08:35

Matrix: Water

Date Received: 08/11/17 14:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 253710       | 08/15/17 08:17       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 253814       | 08/16/17 13:22       | ADB     | TAL SEA |

**Client Sample ID: MID\_INF\_081017**

**Lab Sample ID: 580-70549-3**

Date Collected: 08/10/17 08:40

Matrix: Water

Date Received: 08/11/17 14:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 253710       | 08/15/17 08:17       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 253814       | 08/16/17 12:43       | ADB     | TAL SEA |

**Client Sample ID: LEAD\_INF\_081017**

**Lab Sample ID: 580-70549-4**

Date Collected: 08/10/17 08:45

Matrix: Water

Date Received: 08/11/17 14:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 253710       | 08/15/17 08:17       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 5               | 253814       | 08/16/17 13:43       | ADB     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70549-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

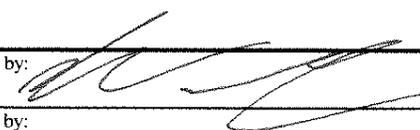
TestAmerica Job ID: 580-70549-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-70549-1   | LAG_EFF_081017   | Water  | 08/10/17 08:30 | 08/11/17 14:00 |
| 580-70549-2   | LAG_INF_081017   | Water  | 08/10/17 08:35 | 08/11/17 14:00 |
| 580-70549-3   | MID_INF_081017   | Water  | 08/10/17 08:40 | 08/11/17 14:00 |
| 580-70549-4   | LEAD_INF_081017  | Water  | 08/10/17 08:45 | 08/11/17 14:00 |

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Chain of Custody Record

70549

| Client Contact  |             | Project Manager: Andrew Vining             |             | Site Contact: Russell Luiten                        |            | Date: 8/10/17   |  | COC No:  |  |
|---|-------------|--|-------------|---|------------|---|--|--|--|
| Farallon Consulting   |             | Tel/Fax: 425-295-0847                      |             | Lab Contact: Kristine Allen                         |            | Carrier:  |  | 1 of 1 COCs  |  |
| 975 5th Avenue Northwest  |             | Analysis Turnaround Time                   |             | Filtered Sample<br>NW/TPH-Dx w/o silica gel cleanup |            |   |  | Job No. Invoice attention to:<br>Shane Degross, BNSF |  |
| Issaquah, WA 98027  |             | Calendar (C) or Work Days (W) W            |             |   |            |   |  | SDG No.  |  |
| (425) 295-0800 Phone  |             | TAT if different from Below _____          |             |   |            |   |  | Sampler: ROL   |  |
| (425) 295-0850 FAX  |             | <input type="checkbox"/> 2 weeks           |             |   |            |   |  | Sample Specific Notes:                               |  |
| Project Name: Skykomish School HWF  |             | <input checked="" type="checkbox"/> 1 week |             |   |            |   |  | *** See instructions below                           |  |
| Site: Skykomish Fueling Facility  |             | <input type="checkbox"/> 2 days            |             |   |            |   |  |  |  |
| WO #: TT0100-Q13  |             | <input type="checkbox"/> 1 day             |             |   |            |   |  |  |  |
| Sample Identification   | Sample Date | Sample Time                                | Sample Type | Matrix  | # of Cont. |   |  |  |  |
| LAG EFF 081017  | 8/10/17     | 830  | Grab        | W   | 2          | X   |  |  |  |
| LAG INF 081017  | ↓           | 835  | Grab        | W   | 2          | X   |  |  |  |
| MID INF 081017  | ↓           | 840  | Grab        | W   | 2          | X   |  |  |  |
| LEAD INF 081017   | ↓           | 845  | Grab        | W   | 2          | X   |  |  |  |
|   |             |  |             |   |            | <br>580-70549 Chain of Custody                              |  |  |  |
| Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other   |             |  |             |   |            | 2 1   |  |  |  |
| Possible Hazard Identification  |             |  |             |   |            | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)   |  |  |  |
| <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown |             |  |             |   |            | <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |  |  |  |
| Special Instructions/QC Requirements & Comments: 1) No silica gel cleanup   |             |  |             |   |            |   |  |  |  |
| Relinquished by:  |             | Company:                                   |             | Date/Time:  |            | Received by:  |  | Date/Time:   |  |
|    |             | PARSON                                     |             | 8/10/17 830   |            | T.A.S.E.H   |  | 8/11/17 1400   |  |
| Relinquished by:  |             | Company:                                   |             | Date/Time:  |            | Received by:  |  | Date/Time:   |  |
| Relinquished by:  |             | Company:                                   |             | Date/Time:  |            | Received by:  |  | Date/Time:   |  |

## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-70549-1

**Login Number: 70549**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-70701-1

Client Project/Site: BNSF Skykomish HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining

*M. Elaine Walker*

Authorized for release by:  
8/25/2017 3:07:38 PM

Elaine Walker, Project Manager II  
(253)248-4972

[elaine.walker@testamericainc.com](mailto:elaine.walker@testamericainc.com)

Designee for

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

**Job ID: 580-70701-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-70701-1

#### Receipt

Four samples were received on 8/18/2017 2:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 14.2° C.

#### Receipt Exceptions

The following sample were received at the laboratory outside the required temperature criteria: LAG\_EFF\_081717 (580-70701-1), LAG\_INF\_081717 (580-70701-2), MID\_INF\_081717 (580-70701-3) and LEAD\_INF\_081717 (580-70701-4). The client was contacted regarding this issue, and the laboratory was instructed to proceed analysis.

#### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_INF\_081717 (580-70701-2), MID\_INF\_081717 (580-70701-3) and LEAD\_INF\_081717 (580-70701-4).

Method(s) NWTPH-Dx: Surrogate recovery for the following sample was outside control limits: LEAD\_INF\_081717 (580-70701-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) NWTPH-Dx: The following sample was diluted due to the nature of the sample matrix: LEAD\_INF\_081717 (580-70701-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

## Qualifiers

### GC Semi VOA

| Qualifier | Qualifier Description               |
|-----------|-------------------------------------|
| X         | Surrogate is outside control limits |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

**Client Sample ID: LAG\_EFF\_081717**

**Lab Sample ID: 580-70701-1**

**Date Collected: 08/17/17 14:30**

**Matrix: Water**

**Date Received: 08/18/17 14:55**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 21:49 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 21:49 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 89        |           | 43 - 119 |     |      |   | 08/21/17 11:52 | 08/22/17 21:49 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

**Client Sample ID: LAG\_INF\_081717**

**Lab Sample ID: 580-70701-2**

**Date Collected: 08/17/17 14:35**

**Matrix: Water**

**Date Received: 08/18/17 14:55**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.16</b> |           | 0.11     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 22:12 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 22:12 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl        | 88          |           | 43 - 119 |     |      |   | 08/21/17 11:52 | 08/22/17 22:12 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

**Client Sample ID: MID\_INF\_081717**

**Lab Sample ID: 580-70701-3**

**Date Collected: 08/17/17 14:40**

**Matrix: Water**

**Date Received: 08/18/17 14:55**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.59</b> |           | 0.11     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 22:35 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 22:35 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl        | 79          |           | 43 - 119 |     |      |   | 08/21/17 11:52 | 08/22/17 22:35 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

**Client Sample ID: LEAD\_INF\_081717**

**Lab Sample ID: 580-70701-4**

**Date Collected: 08/17/17 14:45**

**Matrix: Water**

**Date Received: 08/18/17 14:55**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 3.3       |           | 0.53     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 23:22 | 5       |
| Motor Oil (>C24-C36) | 3.1       |           | 1.2      |     | mg/L |   | 08/21/17 11:52 | 08/22/17 23:22 | 5       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 150       | X         | 43 - 119 |     |      |   | 08/21/17 11:52 | 08/22/17 23:22 | 5       |

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# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-254208/1-A**  
**Matrix: Water**  
**Analysis Batch: 254342**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 254208**

| Analyte              | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND           |              | 0.11     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 19:06 | 1       |
| Motor Oil (>C24-C36) | ND           |              | 0.25     |     | mg/L |   | 08/21/17 11:52 | 08/22/17 19:06 | 1       |
| Surrogate            | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 90           |              | 43 - 119 |     |      |   | 08/21/17 11:52 | 08/22/17 19:06 | 1       |

**Lab Sample ID: LCS 580-254208/2-A**  
**Matrix: Water**  
**Analysis Batch: 254342**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 254208**

| Analyte              | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | Limits   |  |  |
|----------------------|---------------|---------------|---------------|------|---|------|----------|--|--|
| #2 Diesel (C10-C24)  | 0.500         | 0.444         |               | mg/L |   | 89   | 59 - 112 |  |  |
| Motor Oil (>C24-C36) | 0.500         | 0.426         |               | mg/L |   | 85   | 64 - 120 |  |  |
| Surrogate            | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |          |  |  |
| <i>o</i> -Terphenyl  | 95            |               | 43 - 119      |      |   |      |          |  |  |

**Lab Sample ID: LCSD 580-254208/3-A**  
**Matrix: Water**  
**Analysis Batch: 254342**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 254208**

| Analyte              | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | RPD Limit |
|----------------------|----------------|----------------|----------------|------|---|------|----------|-----|-----------|
| #2 Diesel (C10-C24)  | 0.500          | 0.450          |                | mg/L |   | 90   | 59 - 112 | 1   | 16        |
| Motor Oil (>C24-C36) | 0.500          | 0.460          |                | mg/L |   | 92   | 64 - 120 | 8   | 17        |
| Surrogate            | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |          |     |           |
| <i>o</i> -Terphenyl  | 86             |                | 43 - 119       |      |   |      |          |     |           |

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

**Client Sample ID: LAG\_EFF\_081717**

**Date Collected: 08/17/17 14:30**

**Date Received: 08/18/17 14:55**

**Lab Sample ID: 580-70701-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254208       | 08/21/17 11:52       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 254342       | 08/22/17 21:49       | CJ      | TAL SEA |

**Client Sample ID: LAG\_INF\_081717**

**Date Collected: 08/17/17 14:35**

**Date Received: 08/18/17 14:55**

**Lab Sample ID: 580-70701-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254208       | 08/21/17 11:52       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 254342       | 08/22/17 22:12       | CJ      | TAL SEA |

**Client Sample ID: MID\_INF\_081717**

**Date Collected: 08/17/17 14:40**

**Date Received: 08/18/17 14:55**

**Lab Sample ID: 580-70701-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254208       | 08/21/17 11:52       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 254342       | 08/22/17 22:35       | CJ      | TAL SEA |

**Client Sample ID: LEAD\_INF\_081717**

**Date Collected: 08/17/17 14:45**

**Date Received: 08/18/17 14:55**

**Lab Sample ID: 580-70701-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254208       | 08/21/17 11:52       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 5               | 254342       | 08/22/17 23:22       | CJ      | TAL SEA |

## Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-70701-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-70701-1   | LAG_EFF_081717   | Water  | 08/17/17 14:30 | 08/18/17 14:55 |
| 580-70701-2   | LAG_INF_081717   | Water  | 08/17/17 14:35 | 08/18/17 14:55 |
| 580-70701-3   | MID_INF_081717   | Water  | 08/17/17 14:40 | 08/18/17 14:55 |
| 580-70701-4   | LEAD_INF_081717  | Water  | 08/17/17 14:45 | 08/18/17 14:55 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-70701-1

**Login Number: 70701**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Gall, Brandon A**

| Question  | Answer | Comment   |
|---|--------|---|
| Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.      | N/A    | Lab does not accept radioactive samples.                  |
| The cooler's custody seal, if present, is intact.   | True   |   |
| Sample custody seals, if present, are intact.   | True   |   |
| The cooler or samples do not appear to have been compromised or tampered with.                      | True   |   |
| Samples were received on ice.   | True   |   |
| Cooler Temperature is acceptable.   | False  | Cooler temperature outside required temperature criteria. |
| Cooler Temperature is recorded.   | True   |   |
| COC is present.   | True   |   |
| COC is filled out in ink and legible.   | True   |   |
| COC is filled out with all pertinent information.   | True   |   |
| Is the Field Sampler's name present on COC?   | False  | No Name   |
| There are no discrepancies between the containers received and the COC.                             | True   |   |
| Samples are received within Holding Time (excluding tests with immediate HTs)                       | True   |   |
| Sample containers have legible labels.  | True   |   |
| Containers are not broken or leaking.   | True   |   |
| Sample collection date/times are provided.  | True   |   |
| Appropriate sample containers are used.   | True   |   |
| Sample bottles are completely filled.   | True   |   |
| Sample Preservation Verified.   | True   |   |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs                    | True   |   |
| Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4"). | N/A    |   |
| Multiphasic samples are not present.  | True   |   |
| Samples do not require splitting or compositing.  | True   |   |
| Residual Chlorine Checked.  | N/A    |   |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-70832-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining

*M. Elaine Walker*

Authorized for release by:  
8/29/2017 4:52:00 PM

Elaine Walker, Project Manager II  
(253)248-4972

[elaine.walker@testamericainc.com](mailto:elaine.walker@testamericainc.com)

Designee for

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

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**Job ID: 580-70832-1**

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**Laboratory: TestAmerica Seattle**

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**Narrative**

**Job Narrative  
580-70832-1**

**Comments**

No additional comments.

**Receipt**

Four samples were received on 8/24/2017 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.3° C.

**GC Semi VOA**

Method(s) NWTPH-Dx: Surrogate recovery for the following sample was outside control limits: LEAD\_INF\_082317 (580-70832-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

## Qualifiers

### GC Semi VOA

| Qualifier | Qualifier Description               |
|-----------|-------------------------------------|
| X         | Surrogate is outside control limits |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

**Client Sample ID: LAG\_EFF\_082317**

**Lab Sample ID: 580-70832-1**

**Date Collected: 08/23/17 09:00**

**Matrix: Water**

**Date Received: 08/24/17 15:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 14:49 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 14:49 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 100       |           | 43 - 119 |     |      |   | 08/25/17 12:40 | 08/27/17 14:49 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

**Client Sample ID: LAG\_INF\_082317**

**Lab Sample ID: 580-70832-2**

**Date Collected: 08/23/17 09:05**

**Matrix: Water**

**Date Received: 08/24/17 15:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.25</b> |           | 0.11     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 15:11 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 15:11 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl        | 99          |           | 43 - 119 |     |      |   | 08/25/17 12:40 | 08/27/17 15:11 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

**Client Sample ID: MID\_INF\_082317**

**Lab Sample ID: 580-70832-3**

**Date Collected: 08/23/17 09:10**

**Matrix: Water**

**Date Received: 08/24/17 15:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.88      |           | 0.11     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 15:33 | 1       |
| Motor Oil (>C24-C36) | 0.53      |           | 0.24     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 15:33 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 83        |           | 43 - 119 |     |      |   | 08/25/17 12:40 | 08/27/17 15:33 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

**Client Sample ID: LEAD\_INF\_082317**

**Lab Sample ID: 580-70832-4**

**Date Collected: 08/23/17 09:15**

**Matrix: Water**

**Date Received: 08/24/17 15:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.21      |           | 0.11     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 15:54 | 1       |
| Motor Oil (>C24-C36) | 0.24      |           | 0.24     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 15:54 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 7         | X         | 43 - 119 |     |      |   | 08/25/17 12:40 | 08/27/17 15:54 | 1       |

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# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-254656/1-A**  
**Matrix: Water**  
**Analysis Batch: 254694**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 254656**

| Analyte              | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND           |              | 0.11     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 12:41 | 1       |
| Motor Oil (>C24-C36) | ND           |              | 0.25     |     | mg/L |   | 08/25/17 12:40 | 08/27/17 12:41 | 1       |
| Surrogate            | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 102          |              | 43 - 119 |     |      |   | 08/25/17 12:40 | 08/27/17 12:41 | 1       |

**Lab Sample ID: LCS 580-254656/2-A**  
**Matrix: Water**  
**Analysis Batch: 254694**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 254656**

| Analyte              | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | Limits   |  |  |
|----------------------|---------------|---------------|---------------|------|---|------|----------|--|--|
| #2 Diesel (C10-C24)  | 0.500         | 0.464         |               | mg/L |   | 93   | 59 - 112 |  |  |
| Motor Oil (>C24-C36) | 0.500         | 0.552         |               | mg/L |   | 110  | 64 - 120 |  |  |
| Surrogate            | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |          |  |  |
| <i>o</i> -Terphenyl  | 94            |               | 43 - 119      |      |   |      |          |  |  |

**Lab Sample ID: LCSD 580-254656/3-A**  
**Matrix: Water**  
**Analysis Batch: 254694**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 254656**

| Analyte              | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | RPD Limit |
|----------------------|----------------|----------------|----------------|------|---|------|----------|-----|-----------|
| #2 Diesel (C10-C24)  | 0.500          | 0.458          |                | mg/L |   | 92   | 59 - 112 | 1   | 16        |
| Motor Oil (>C24-C36) | 0.500          | 0.555          |                | mg/L |   | 111  | 64 - 120 | 0   | 17        |
| Surrogate            | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |          |     |           |
| <i>o</i> -Terphenyl  | 89             |                | 43 - 119       |      |   |      |          |     |           |

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

**Client Sample ID: LAG\_EFF\_082317**

**Date Collected: 08/23/17 09:00**

**Date Received: 08/24/17 15:30**

**Lab Sample ID: 580-70832-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254656       | 08/25/17 12:40       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 254694       | 08/27/17 14:49       | CJ      | TAL SEA |

**Client Sample ID: LAG\_INF\_082317**

**Date Collected: 08/23/17 09:05**

**Date Received: 08/24/17 15:30**

**Lab Sample ID: 580-70832-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254656       | 08/25/17 12:40       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 254694       | 08/27/17 15:11       | CJ      | TAL SEA |

**Client Sample ID: MID\_INF\_082317**

**Date Collected: 08/23/17 09:10**

**Date Received: 08/24/17 15:30**

**Lab Sample ID: 580-70832-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254656       | 08/25/17 12:40       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 254694       | 08/27/17 15:33       | CJ      | TAL SEA |

**Client Sample ID: LEAD\_INF\_082317**

**Date Collected: 08/23/17 09:15**

**Date Received: 08/24/17 15:30**

**Lab Sample ID: 580-70832-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 254656       | 08/25/17 12:40       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 254694       | 08/27/17 15:54       | CJ      | TAL SEA |

## Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

- 1
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-70832-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-70832-1   | LAG_EFF_082317   | Water  | 08/23/17 09:00 | 08/24/17 15:30 |
| 580-70832-2   | LAG_INF_082317   | Water  | 08/23/17 09:05 | 08/24/17 15:30 |
| 580-70832-3   | MID_INF_082317   | Water  | 08/23/17 09:10 | 08/24/17 15:30 |
| 580-70832-4   | LEAD_INF_082317  | Water  | 08/23/17 09:15 | 08/24/17 15:30 |

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# Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-70832-1

**Login Number: 70832**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Ponce-McDermott, Monica**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True   |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| Sample custody seals, if present, are intact.                                    | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | False  | No name |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-71002-1

Client Project/Site: BNSF Skykomish HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
9/15/2017 3:37:43 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Table of Contents

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

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**Job ID: 580-71002-1**

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**Laboratory: TestAmerica Seattle**

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## Narrative

### Job Narrative 580-71002-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/5/2017 12:47 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-255474 and analytical batch 580-255933 recovered outside control limits for the following analytes: DRO (nC10-<nC24) and Motor Oil. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) NWTPH-Dx: Surrogate recovery for the following samples were outside the upper control limit: LAG\_EFF\_083017 (580-71002-1), (LCSD 580-255474/3-A) and (MB 580-255474/1-A). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

## Qualifiers

### GC Semi VOA

| Qualifier | Qualifier Description                     |
|-----------|---|
| *         | LCS or LCSD is outside acceptance limits. |
| X         | Surrogate is outside control limits       |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

**Client Sample ID: LAG\_EFF\_083017**

**Lab Sample ID: 580-71002-1**

**Date Collected: 08/30/17 09:10**

**Matrix: Water**

**Date Received: 09/05/17 12:47**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        | *         | 0.11     |     | mg/L |   | 09/06/17 15:51 | 09/13/17 09:56 | 1       |
| Motor Oil (>C24-C36) | ND        | *         | 0.24     |     | mg/L |   | 09/06/17 15:51 | 09/13/17 09:56 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 126       | X         | 43 - 119 |     |      |   | 09/06/17 15:51 | 09/13/17 09:56 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

**Client Sample ID: LAG\_INF\_083017**

**Lab Sample ID: 580-71002-2**

**Date Collected: 08/30/17 09:15**

**Matrix: Water**

**Date Received: 09/05/17 12:47**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RE**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.31</b> |           | 0.11     |     | mg/L |   | 09/13/17 16:19 | 09/14/17 16:08 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 09/13/17 16:19 | 09/14/17 16:08 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 82          |           | 43 - 119 |     |      |   | 09/13/17 16:19 | 09/14/17 16:08 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

**Client Sample ID: MID\_INF\_083017**

**Lab Sample ID: 580-71002-3**

Date Collected: 08/30/17 09:20

Matrix: Water

Date Received: 09/05/17 12:47

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RE**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.68      |           | 0.11     |     | mg/L |   | 09/13/17 16:19 | 09/14/17 16:37 | 1       |
| Motor Oil (>C24-C36) | 0.25      |           | 0.24     |     | mg/L |   | 09/13/17 16:19 | 09/14/17 16:37 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 80        |           | 43 - 119 |     |      |   | 09/13/17 16:19 | 09/14/17 16:37 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

**Client Sample ID: LEAD\_INF\_083017**

**Lab Sample ID: 580-71002-4**

**Date Collected: 08/30/17 09:25**

**Matrix: Water**

**Date Received: 09/05/17 12:47**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RE**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.71      |           | 0.11     |     | mg/L |   | 09/13/17 16:19 | 09/14/17 17:07 | 1       |
| Motor Oil (>C24-C36) | 0.37      |           | 0.24     |     | mg/L |   | 09/13/17 16:19 | 09/14/17 17:07 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 80        |           | 43 - 119 |     |      |   | 09/13/17 16:19 | 09/14/17 17:07 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-255474/1-A**

**Matrix: Water**

**Analysis Batch: 255933**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 255474**

| Analyte              | MB Result | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11     |     | mg/L |   | 09/06/17 15:51 | 09/13/17 08:55 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25     |     | mg/L |   | 09/06/17 15:51 | 09/13/17 08:55 | 1       |
| Surrogate            | %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 133       | X            | 43 - 119 |     |      |   | 09/06/17 15:51 | 09/13/17 08:55 | 1       |

**Lab Sample ID: LCS 580-255474/2-A**

**Matrix: Water**

**Analysis Batch: 255933**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 255474**

| Analyte              | Spike Added | LCS Result    | LCS Qualifier | Unit | D | %Rec | Limits   |  |  |
|----------------------|-------------|---------------|---------------|------|---|------|----------|--|--|
| #2 Diesel (C10-C24)  | 0.500       | 0.608         | *             | mg/L |   | 122  | 59 - 112 |  |  |
| Motor Oil (>C24-C36) | 0.500       | 0.716         | *             | mg/L |   | 143  | 64 - 120 |  |  |
| Surrogate            | %Recovery   | LCS Qualifier | Limits        |      |   |      |          |  |  |
| <i>o</i> -Terphenyl  | 107         | X             | 43 - 119      |      |   |      |          |  |  |

**Lab Sample ID: LCSD 580-255474/3-A**

**Matrix: Water**

**Analysis Batch: 255933**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 255474**

| Analyte              | Spike Added | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|----------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.698          | *              | mg/L |   | 140  | 59 - 112 | 14  | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.814          | *              | mg/L |   | 163  | 64 - 120 | 13  | 17    |
| Surrogate            | %Recovery   | LCSD Qualifier | Limits         |      |   |      |          |     |       |
| <i>o</i> -Terphenyl  | 121         | X              | 43 - 119       |      |   |      |          |     |       |

**Lab Sample ID: MB 580-256016/1-A**

**Matrix: Water**

**Analysis Batch: 256171**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 256016**

| Analyte              | MB Result | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11     |     | mg/L |   | 09/13/17 08:55 | 09/14/17 14:14 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25     |     | mg/L |   | 09/13/17 08:55 | 09/14/17 14:14 | 1       |
| Surrogate            | %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 80        |              | 43 - 119 |     |      |   | 09/13/17 08:55 | 09/14/17 14:14 | 1       |

**Lab Sample ID: LCS 580-256016/2-A**

**Matrix: Water**

**Analysis Batch: 256171**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 256016**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |  |  |
|----------------------|-------------|------------|---------------|------|---|------|----------|--|--|
| #2 Diesel (C10-C24)  | 0.500       | 0.434      |               | mg/L |   | 87   | 59 - 112 |  |  |
| Motor Oil (>C24-C36) | 0.500       | 0.487      |               | mg/L |   | 97   | 64 - 120 |  |  |

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCS 580-256016/2-A**

**Matrix: Water**

**Analysis Batch: 256171**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 256016**

| <i>Surrogate</i>   | <i>%Recovery</i> | <i>LCS<br/>Qualifier</i> | <i>Limits</i> |
|--------------------|------------------|--------------------------|---------------|
| <i>o-Terphenyl</i> | 94               |                          | 43 - 119      |

**Lab Sample ID: LCSD 580-256016/3-A**

**Matrix: Water**

**Analysis Batch: 256171**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 256016**

| <i>Analyte</i>       | <i>Spike<br/>Added</i> | <i>LCSD<br/>Result</i> | <i>LCSD<br/>Qualifier</i> | <i>Unit</i> | <i>D</i> | <i>%Rec</i> | <i>%Rec.<br/>Limits</i> | <i>RPD</i> | <i>Limit</i> |
|----------------------|------------------------|------------------------|---------------------------|-------------|----------|-------------|-------------------------|------------|--------------|
| #2 Diesel (C10-C24)  | 0.500                  | 0.416                  |                           | mg/L        |          | 83          | 59 - 112                | 4          | 16           |
| Motor Oil (>C24-C36) | 0.500                  | 0.497                  |                           | mg/L        |          | 99          | 64 - 120                | 2          | 17           |

| <i>Surrogate</i>   | <i>%Recovery</i> | <i>LCSD<br/>Qualifier</i> | <i>Limits</i> |
|--------------------|------------------|---------------------------|---------------|
| <i>o-Terphenyl</i> | 94               |                           | 43 - 119      |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

## Client Sample ID: LAG\_EFF\_083017

Lab Sample ID: 580-71002-1

Date Collected: 08/30/17 09:10

Matrix: Water

Date Received: 09/05/17 12:47

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 255474       | 09/06/17 15:51       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 255933       | 09/13/17 09:56       | ADB     | TAL SEA |

## Client Sample ID: LAG\_INF\_083017

Lab Sample ID: 580-71002-2

Date Collected: 08/30/17 09:15

Matrix: Water

Date Received: 09/05/17 12:47

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        | RE  |                 | 256016       | 09/13/17 16:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     | RE  | 1               | 256171       | 09/14/17 16:08       | CJ      | TAL SEA |

## Client Sample ID: MID\_INF\_083017

Lab Sample ID: 580-71002-3

Date Collected: 08/30/17 09:20

Matrix: Water

Date Received: 09/05/17 12:47

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        | RE  |                 | 256016       | 09/13/17 16:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     | RE  | 1               | 256171       | 09/14/17 16:37       | CJ      | TAL SEA |

## Client Sample ID: LEAD\_INF\_083017

Lab Sample ID: 580-71002-4

Date Collected: 08/30/17 09:25

Matrix: Water

Date Received: 09/05/17 12:47

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        | RE  |                 | 256016       | 09/13/17 16:19       | MRG     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     | RE  | 1               | 256171       | 09/14/17 17:07       | CJ      | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71002-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-71002-1   | LAG_EFF_083017   | Water  | 08/30/17 09:10 | 09/05/17 12:47 |
| 580-71002-2   | LAG_INF_083017   | Water  | 08/30/17 09:15 | 09/05/17 12:47 |
| 580-71002-3   | MID_INF_083017   | Water  | 08/30/17 09:20 | 09/05/17 12:47 |
| 580-71002-4   | LEAD_INF_083017  | Water  | 08/30/17 09:25 | 09/05/17 12:47 |

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### Chain of Custody Record

TestAmerica Laboratories, Inc.

|   |  |   |                    |                                     |               |   |                        |                        |                               |  |  |
|---|--|---|--------------------|-------------------------------------|---------------|---|------------------------|------------------------|-------------------------------|--|--|
| <b>Client Contact</b>   |  | <b>Project Manager: Andrew Vining</b>   |                    | <b>Site Contact: Russell Luiten</b> |               | <b>Date:</b>  |                        | <b>COC No:</b>         |                               |  |  |
| Farallon Consulting   |  | Tel/Fax: 425-295-0847   |                    | Lab Contact: Kristine Allen         |               | Carrier:  |                        | 1 of 1 COCs            |                               |  |  |
| 975 5th Avenue Northwest  |  | <b>Analysis Turnaround Time</b>   |                    |                                     |               |   |                        |                        |                               | Job No. Invoice attention to:<br>Shane Degross, BNSF   |  |
| Issaquah, WA 98027  |  | Calendar (C) or Work Days (W) <u>W</u>  |                    |                                     |               |   |                        |                        |                               | SDG No.  |  |
| (425) 295-0800 Phone  |  | TAT if different from Below _____   |                    |                                     |               |   |                        |                        |                               | Sampler:   |  |
| (425) 295-0850 FAX  |  | <input type="checkbox"/> 2 weeks  |                    |                                     |               |   |                        |                        |                               | Sample Specific Notes:   |  |
| Project Name: Skykomish School HWF  |  | <input checked="" type="checkbox"/> 1 week  |                    |                                     |               |   |                        |                        |                               |  |  |
| Site: Skykomish Fueling Facility  |  | <input type="checkbox"/> 2 days   |                    |                                     |               |   |                        |                        |                               |  |  |
| WO #: TT0100-Q13  |  | <input type="checkbox"/> 1 day  |                    |                                     |               |   |                        |                        |                               |  |  |
| <b>Sample Identification</b>  |  | <b>Sample Date</b>  | <b>Sample Time</b> | <b>Sample Type</b>                  | <b>Matrix</b> | <b># of Cont.</b>   | <b>Filtered Sample</b> | <b>NWTPH-Dx</b>        | <b>w/o silica gel cleanup</b> |  |  |
| LAG EFF 083017  |  | 8/30/17   | 910                | Grab                                | W             | 2   | X                      |                        |                               | *** See instructions below   |  |
| LAG INF 083017  |  | 8/30/17   | 915                | Grab                                | W             | 2   | X                      |                        |                               |  |  |
| MID INF 083017  |  | 8/30/17   | 920                | Grab                                | W             | 2   | X                      |                        |                               |  |  |
| LEAD INF 083017   |  | 8/30/17   | 925                | Grab                                | W             | 2   | X                      |                        |                               |  |  |
| <br>580-71002 Chain of Custody   |  |   |                    |                                     |               |   |                        |                        |                               | TB <u>AZ</u> Cooler <u>Cor 0.6 Unc 1.4</u><br>Cooler Dsc <u>by Blue</u> @Lab <u>        </u><br>Wet/Packs Packing <u>Bubble</u><br>w/CS Custody Seal: Yes <u>        </u> No <u>        </u> |  |
|   |  | Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other <u>        </u> |                    |                                     |               |   |                        |                        |                               | 2 1  |  |
| Possible Hazard Identification  |  |   |                    |                                     |               | Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)  |                        |                        |                               |  |  |
| <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown |  |   |                    |                                     |               | <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <u>        </u> Months |                        |                        |                               |  |  |
| Special Instructions/QC Requirements & Comments: 1) No silica gel cleanup   |  |   |                    |                                     |               |   |                        |                        |                               |  |  |
| Relinquished by:   |  | Company: <u>Farallon</u>  |                    | Date/Time: <u>8/30/17 830</u>       |               | Received by:   |                        | Company: <u>TASIEH</u> |                               | Date/Time: <u>8/31/17 1620</u>   |  |
| Relinquished by:  |  | Company:  |                    | Date/Time:                          |               | Received by:  |                        | Company:               |                               | Date/Time:   |  |
| Relinquished by:  |  | Company:  |                    | Date/Time:                          |               | Received by:  |                        | Company:               |                               | Date/Time:   |  |

## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-71002-1

**Login Number: 71002**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Bean, Dennis L**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-71127-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
9/15/2017 3:45:27 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

**Job ID: 580-71127-1**

**Laboratory: TestAmerica Seattle**

## Narrative

**Job Narrative**  
**580-71127-1**

### Comments

No additional comments.

### Receipt

The samples were received on 9/8/2017 12:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.5° C.

### GC Semi VOA

Method(s) NWTPH-Dx: The following sample was diluted due to the nature of the sample matrix: LEAD\_INF\_090717 (580-71127-4). Elevated reporting limits (RLs) are provided.

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_INF\_090717 (580-71127-2) and MID\_INF\_090717 (580-71127-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

**Client Sample ID: LAG\_EFF\_090717**

**Lab Sample ID: 580-71127-1**

**Date Collected: 09/07/17 07:40**

**Matrix: Water**

**Date Received: 09/08/17 12:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.11     |     | mg/L |   | 09/11/17 08:48 | 09/13/17 16:31 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 09/11/17 08:48 | 09/13/17 16:31 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 86        |           | 43 - 119 |     |      |   | 09/11/17 08:48 | 09/13/17 16:31 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

**Client Sample ID: LAG\_INF\_090717**

**Lab Sample ID: 580-71127-2**

Date Collected: 09/07/17 07:45

Matrix: Water

Date Received: 09/08/17 12:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.33      |           | 0.11     |     | mg/L |   | 09/11/17 08:48 | 09/13/17 16:59 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 09/11/17 08:48 | 09/13/17 16:59 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 87        |           | 43 - 119 |     |      |   | 09/11/17 08:48 | 09/13/17 16:59 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

**Client Sample ID: MID\_INF\_090717**

**Lab Sample ID: 580-71127-3**

**Date Collected: 09/07/17 07:50**

**Matrix: Water**

**Date Received: 09/08/17 12:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.62      |           | 0.11     |     | mg/L |   | 09/11/17 08:48 | 09/13/17 17:27 | 1       |
| Motor Oil (>C24-C36) | 0.29      |           | 0.24     |     | mg/L |   | 09/11/17 08:48 | 09/13/17 17:27 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 87        |           | 43 - 119 |     |      |   | 09/11/17 08:48 | 09/13/17 17:27 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

**Client Sample ID: LEAD\_INF\_090717**

**Lab Sample ID: 580-71127-4**

**Date Collected: 09/07/17 07:55**

**Matrix: Water**

**Date Received: 09/08/17 12:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 2.4       |           | 0.53     |     | mg/L |   | 09/11/17 08:48 | 09/12/17 22:17 | 5       |
| Motor Oil (>C24-C36) | 3.3       |           | 1.2      |     | mg/L |   | 09/11/17 08:48 | 09/12/17 22:17 | 5       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 111       |           | 43 - 119 |     |      |   | 09/11/17 08:48 | 09/12/17 22:17 | 5       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-255798/1-A**

**Matrix: Water**

**Analysis Batch: 256035**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 255798**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 09/11/17 08:48 | 09/13/17 13:35 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 09/11/17 08:48 | 09/13/17 13:35 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 83           |              | 43 - 119 | 09/11/17 08:48 | 09/13/17 13:35 | 1       |

**Lab Sample ID: LCS 580-255798/2-A**

**Matrix: Water**

**Analysis Batch: 256035**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 255798**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.428      |               | mg/L |   | 86   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.502      |               | mg/L |   | 100  | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 95            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-255798/3-A**

**Matrix: Water**

**Analysis Batch: 256035**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 255798**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.458       |                | mg/L |   | 92   | 59 - 112 | 7   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.508       |                | mg/L |   | 102  | 64 - 120 | 1   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 102            |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

## Client Sample ID: LAG\_EFF\_090717

Lab Sample ID: 580-71127-1

Date Collected: 09/07/17 07:40

Matrix: Water

Date Received: 09/08/17 12:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 255798       | 09/11/17 08:48       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 256035       | 09/13/17 16:31       | ADB     | TAL SEA |

## Client Sample ID: LAG\_INF\_090717

Lab Sample ID: 580-71127-2

Date Collected: 09/07/17 07:45

Matrix: Water

Date Received: 09/08/17 12:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 255798       | 09/11/17 08:48       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 256035       | 09/13/17 16:59       | ADB     | TAL SEA |

## Client Sample ID: MID\_INF\_090717

Lab Sample ID: 580-71127-3

Date Collected: 09/07/17 07:50

Matrix: Water

Date Received: 09/08/17 12:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 255798       | 09/11/17 08:48       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 256035       | 09/13/17 17:27       | ADB     | TAL SEA |

## Client Sample ID: LEAD\_INF\_090717

Lab Sample ID: 580-71127-4

Date Collected: 09/07/17 07:55

Matrix: Water

Date Received: 09/08/17 12:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 255798       | 09/11/17 08:48       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 5               | 255918       | 09/12/17 22:17       | W1T     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71127-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-71127-1   | LAG_EFF_090717   | Water  | 09/07/17 07:40 | 09/08/17 12:30 |
| 580-71127-2   | LAG_INF_090717   | Water  | 09/07/17 07:45 | 09/08/17 12:30 |
| 580-71127-3   | MID_INF_090717   | Water  | 09/07/17 07:50 | 09/08/17 12:30 |
| 580-71127-4   | LEAD_INF_090717  | Water  | 09/07/17 07:55 | 09/08/17 12:30 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-71127-1

**Login Number: 71127**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Ponce-McDermott, Monica**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | False  | No name |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-71321-1

Client Project/Site: BNSF Skykomish HWF  
Revision: 1

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
1/9/2018 11:02:38 AM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

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results through  
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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

**Job ID: 580-71321-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-71321-1

#### Comments

Report was revised 1/9/18 to correct the case narrative only. There was no change to the data.

No additional comments.

#### Receipt

The samples were received on 9/15/2017 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.1° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The continuing calibration verification (CCV) associated with batch 580-256710 recovered above the upper control limit for C10-C24 and Motor Oil (>C24-C36). The samples associated with this CCV were QC samples only. (CCV 580-256710/29), (CCV 580-256710/40) and (CCVRT 580-256710/3).

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_EFF\_091417 (580-71321-1) and LEAD\_INF\_091417 (580-71321-4).

Method(s) NWTPH-Dx: The following samples was diluted due to the nature of the sample matrix: LAG\_EFF\_091417 (580-71321-1) and LEAD\_INF\_091417 (580-71321-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

**Client Sample ID: LAG\_EFF\_091417**

**Lab Sample ID: 580-71321-1**

**Date Collected: 09/14/17 08:25**

**Matrix: Water**

**Date Received: 09/15/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.97      |           | 0.53     |     | mg/L |   | 09/20/17 10:26 | 09/25/17 22:15 | 5       |
| Motor Oil (>C24-C36) | 1.9       |           | 1.2      |     | mg/L |   | 09/20/17 10:26 | 09/25/17 22:15 | 5       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 99        |           | 43 - 119 |     |      |   | 09/20/17 10:26 | 09/25/17 22:15 | 5       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

**Client Sample ID: LAG\_INF\_091417**

**Lab Sample ID: 580-71321-2**

**Date Collected: 09/14/17 08:30**

**Matrix: Water**

**Date Received: 09/15/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.52      |           | 0.11     |     | mg/L |   | 09/20/17 10:26 | 09/25/17 22:38 | 1       |
| Motor Oil (>C24-C36) | 0.25      |           | 0.24     |     | mg/L |   | 09/20/17 10:26 | 09/25/17 22:38 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 93        |           | 43 - 119 |     |      |   | 09/20/17 10:26 | 09/25/17 22:38 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

**Client Sample ID: MID\_INF\_091417**

**Lab Sample ID: 580-71321-3**

**Date Collected: 09/14/17 08:35**

**Matrix: Water**

**Date Received: 09/15/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.4       |           | 0.11     |     | mg/L |   | 09/20/17 10:26 | 09/25/17 23:00 | 1       |
| Motor Oil (>C24-C36) | 0.64      |           | 0.24     |     | mg/L |   | 09/20/17 10:26 | 09/25/17 23:00 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 90        |           | 43 - 119 |     |      |   | 09/20/17 10:26 | 09/25/17 23:00 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

**Client Sample ID: LEAD\_INF\_091417**

**Lab Sample ID: 580-71321-4**

**Date Collected: 09/14/17 08:40**

**Matrix: Water**

**Date Received: 09/15/17 15:15**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 2.5       |           | 0.53     |     | mg/L |   | 09/20/17 10:26 | 09/25/17 23:23 | 5       |
| Motor Oil (>C24-C36) | 2.7       |           | 1.2      |     | mg/L |   | 09/20/17 10:26 | 09/25/17 23:23 | 5       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 96        |           | 43 - 119 |     |      |   | 09/20/17 10:26 | 09/25/17 23:23 | 5       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-256691/1-A**  
**Matrix: Water**  
**Analysis Batch: 256710**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 256691**

| Analyte              | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND           |              | 0.11     |     | mg/L |   | 09/20/17 10:26 | 09/21/17 09:48 | 1       |
| Motor Oil (>C24-C36) | ND           |              | 0.25     |     | mg/L |   | 09/20/17 10:26 | 09/21/17 09:48 | 1       |
| Surrogate            | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 83           |              | 43 - 119 |     |      |   | 09/20/17 10:26 | 09/21/17 09:48 | 1       |

**Lab Sample ID: LCS 580-256691/2-A**  
**Matrix: Water**  
**Analysis Batch: 256710**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 256691**

| Analyte              | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | Limits   |  |  |
|----------------------|---------------|---------------|---------------|------|---|------|----------|--|--|
| #2 Diesel (C10-C24)  | 0.500         | 0.423         |               | mg/L |   | 85   | 59 - 112 |  |  |
| Motor Oil (>C24-C36) | 0.500         | 0.468         |               | mg/L |   | 94   | 64 - 120 |  |  |
| Surrogate            | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |          |  |  |
| <i>o</i> -Terphenyl  | 88            |               | 43 - 119      |      |   |      |          |  |  |

**Lab Sample ID: LCSD 580-256691/3-A**  
**Matrix: Water**  
**Analysis Batch: 256710**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 256691**

| Analyte              | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|----------------|----------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500          | 0.452          |                | mg/L |   | 90   | 59 - 112 | 6   | 16    |
| Motor Oil (>C24-C36) | 0.500          | 0.483          |                | mg/L |   | 97   | 64 - 120 | 3   | 17    |
| Surrogate            | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |          |     |       |
| <i>o</i> -Terphenyl  | 89             |                | 43 - 119       |      |   |      |          |     |       |

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

**Client Sample ID: LAG\_EFF\_091417**

**Date Collected: 09/14/17 08:25**

**Date Received: 09/15/17 15:15**

**Lab Sample ID: 580-71321-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 256691       | 09/20/17 10:26       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 5               | 257172       | 09/25/17 22:15       | T1W     | TAL SEA |

**Client Sample ID: LAG\_INF\_091417**

**Date Collected: 09/14/17 08:30**

**Date Received: 09/15/17 15:15**

**Lab Sample ID: 580-71321-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 256691       | 09/20/17 10:26       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 257172       | 09/25/17 22:38       | T1W     | TAL SEA |

**Client Sample ID: MID\_INF\_091417**

**Date Collected: 09/14/17 08:35**

**Date Received: 09/15/17 15:15**

**Lab Sample ID: 580-71321-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 256691       | 09/20/17 10:26       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 257172       | 09/25/17 23:00       | T1W     | TAL SEA |

**Client Sample ID: LEAD\_INF\_091417**

**Date Collected: 09/14/17 08:40**

**Date Received: 09/15/17 15:15**

**Lab Sample ID: 580-71321-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 256691       | 09/20/17 10:26       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 5               | 257172       | 09/25/17 23:23       | T1W     | TAL SEA |

## Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-71321-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-71321-1   | LAG_EFF_091417   | Water  | 09/14/17 08:25 | 09/15/17 15:15 |
| 580-71321-2   | LAG_INF_091417   | Water  | 09/14/17 08:30 | 09/15/17 15:15 |
| 580-71321-3   | MID_INF_091417   | Water  | 09/14/17 08:35 | 09/15/17 15:15 |
| 580-71321-4   | LEAD_INF_091417  | Water  | 09/14/17 08:40 | 09/15/17 15:15 |

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# Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-71321-1

**Login Number: 71321**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Hobbs, Kenneth F**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A    |         |
| The cooler's custody seal, if present, is intact.                                | True   |         |
| Sample custody seals, if present, are intact.                                    | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | False  | No name |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.                                 | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-71534-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Andrew Vining



Authorized for release by:  
10/2/2017 3:18:33 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

**Job ID: 580-71534-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-71534-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/22/2017 4:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The continuing calibration verification (CCV) associated with batch 580-257523 recovered above the upper control limit for Motor Oil. The samples associated with this CCV were non-detects for the affected analytes above the reporting limit; therefore, the data have been reported. The following samples are impacted: LAG\_EFF\_092117 (580-71534-1), (CCV 580-257523/25) and (MB 580-257397/1-A).

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_EFF\_092117 (580-71534-1), LAG\_INF\_092117 (580-71534-2), MID\_INF\_092117 (580-71534-3) and LEAD\_INF\_092117 (580-71534-4).

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: MID\_INF\_092117 (580-71534-3) and LEAD\_INF\_092117 (580-71534-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

**Client Sample ID: LAG\_EFF\_092117**

**Lab Sample ID: 580-71534-1**

**Date Collected: 09/21/17 12:00**

**Matrix: Water**

**Date Received: 09/22/17 16:25**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.52</b> |           | 0.11     |     | mg/L |   | 09/27/17 10:16 | 09/28/17 23:10 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 09/27/17 10:16 | 09/28/17 23:10 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 70          |           | 43 - 119 |     |      |   | 09/27/17 10:16 | 09/28/17 23:10 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

**Client Sample ID: LAG\_INF\_092117**

**Lab Sample ID: 580-71534-2**

Date Collected: 09/21/17 12:05

Matrix: Water

Date Received: 09/22/17 16:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.3       |           | 0.10     |     | mg/L |   | 09/27/17 10:16 | 09/29/17 13:43 | 1       |
| Motor Oil (>C24-C36) | 0.44      |           | 0.24     |     | mg/L |   | 09/27/17 10:16 | 09/29/17 13:43 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 75        |           | 43 - 119 |     |      |   | 09/27/17 10:16 | 09/29/17 13:43 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

**Client Sample ID: MID\_INF\_092117**

**Lab Sample ID: 580-71534-3**

Date Collected: 09/21/17 12:10

Matrix: Water

Date Received: 09/22/17 16:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.8       |           | 0.10     |     | mg/L |   | 09/27/17 10:16 | 10/02/17 11:13 | 1       |
| Motor Oil (>C24-C36) | 0.60      |           | 0.24     |     | mg/L |   | 09/27/17 10:16 | 10/02/17 11:13 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 70        |           | 43 - 119 |     |      |   | 09/27/17 10:16 | 10/02/17 11:13 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

**Client Sample ID: LEAD\_INF\_092117**

**Lab Sample ID: 580-71534-4**

**Date Collected: 09/21/17 12:15**

**Matrix: Water**

**Date Received: 09/22/17 16:25**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 2.0       |           | 0.10     |     | mg/L |   | 09/27/17 10:16 | 10/02/17 11:34 | 1       |
| Motor Oil (>C24-C36) | 0.78      |           | 0.24     |     | mg/L |   | 09/27/17 10:16 | 10/02/17 11:34 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 81        |           | 43 - 119 |     |      |   | 09/27/17 10:16 | 10/02/17 11:34 | 1       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-257397/1-A**

**Matrix: Water**

**Analysis Batch: 257523**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 257397**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 09/27/17 10:16 | 09/28/17 22:05 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 09/27/17 10:16 | 09/28/17 22:05 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 96           |              | 43 - 119 | 09/27/17 10:16 | 09/28/17 22:05 | 1       |

**Lab Sample ID: LCS 580-257397/2-A**

**Matrix: Water**

**Analysis Batch: 257523**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 257397**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.412      |               | mg/L |   | 82   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.487      |               | mg/L |   | 97   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 82            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-257397/3-A**

**Matrix: Water**

**Analysis Batch: 257523**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 257397**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.385       |                | mg/L |   | 77   | 59 - 112 | 7   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.481       |                | mg/L |   | 96   | 64 - 120 | 1   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 86             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

**Client Sample ID: LAG\_EFF\_092117**

**Lab Sample ID: 580-71534-1**

Date Collected: 09/21/17 12:00

Matrix: Water

Date Received: 09/22/17 16:25

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 257397       | 09/27/17 10:16       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 257523       | 09/28/17 23:10       | ADB     | TAL SEA |

**Client Sample ID: LAG\_INF\_092117**

**Lab Sample ID: 580-71534-2**

Date Collected: 09/21/17 12:05

Matrix: Water

Date Received: 09/22/17 16:25

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 257397       | 09/27/17 10:16       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 257641       | 09/29/17 13:43       | ADB     | TAL SEA |

**Client Sample ID: MID\_INF\_092117**

**Lab Sample ID: 580-71534-3**

Date Collected: 09/21/17 12:10

Matrix: Water

Date Received: 09/22/17 16:25

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 257397       | 09/27/17 10:16       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 257777       | 10/02/17 11:13       | ADB     | TAL SEA |

**Client Sample ID: LEAD\_INF\_092117**

**Lab Sample ID: 580-71534-4**

Date Collected: 09/21/17 12:15

Matrix: Water

Date Received: 09/22/17 16:25

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 257397       | 09/27/17 10:16       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 257777       | 10/02/17 11:34       | ADB     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71534-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-71534-1   | LAG_EFF_092117   | Water  | 09/21/17 12:00 | 09/22/17 16:25 |
| 580-71534-2   | LAG_INF_092117   | Water  | 09/21/17 12:05 | 09/22/17 16:25 |
| 580-71534-3   | MID_INF_092117   | Water  | 09/21/17 12:10 | 09/22/17 16:25 |
| 580-71534-4   | LEAD_INF_092117  | Water  | 09/21/17 12:15 | 09/22/17 16:25 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-71534-1

**Login Number: 71534**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Hobbs, Kenneth F**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-71710-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
1809 7th Ave. Suite 1111  
Seattle, Washington 98101

Attn: Rob Leet



Authorized for release by:  
10/6/2017 1:30:08 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

**Job ID: 580-71710-1**

**Laboratory: TestAmerica Seattle**

## Narrative

**Job Narrative  
580-71710-1**

## Comments

No additional comments.

## Receipt

The samples were received on 9/29/2017 9:39 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.2° C.

## GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_EFF\_092817 (580-71710-1), LAG\_INF\_092817 (580-71710-2), MID\_INF\_092817 (580-71710-3) and LEAD\_INF\_092817 (580-71710-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

**Client Sample ID: LAG\_EFF\_092817**

**Lab Sample ID: 580-71710-1**

**Date Collected: 09/28/17 14:30**

**Matrix: Water**

**Date Received: 10/02/17 09:39**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.29</b> |           | 0.11     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 19:34 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 19:34 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 73          |           | 43 - 119 |     |      |   | 10/04/17 10:36 | 10/04/17 19:34 | 1       |

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

**Client Sample ID: LAG\_INF\_092817**

**Lab Sample ID: 580-71710-2**

Date Collected: 09/28/17 14:35

Matrix: Water

Date Received: 10/02/17 09:39

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.50      |           | 0.10     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 19:56 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 19:56 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 70        |           | 43 - 119 |     |      |   | 10/04/17 10:36 | 10/04/17 19:56 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

**Client Sample ID: MID\_INF\_092817**

**Lab Sample ID: 580-71710-3**

**Date Collected: 09/28/17 14:40**

**Matrix: Water**

**Date Received: 10/02/17 09:39**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.78      |           | 0.10     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 20:18 | 1       |
| Motor Oil (>C24-C36) | 0.29      |           | 0.24     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 20:18 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 72        |           | 43 - 119 |     |      |   | 10/04/17 10:36 | 10/04/17 20:18 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

**Client Sample ID: LEAD\_INF\_092817**

**Lab Sample ID: 580-71710-4**

Date Collected: 09/28/17 14:45

Matrix: Water

Date Received: 10/02/17 09:39

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.75      |           | 0.11     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 20:41 | 1       |
| Motor Oil (>C24-C36) | 0.37      |           | 0.24     |     | mg/L |   | 10/04/17 10:36 | 10/04/17 20:41 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 63        |           | 43 - 119 |     |      |   | 10/04/17 10:36 | 10/04/17 20:41 | 1       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-258036/1-A**

**Matrix: Water**

**Analysis Batch: 258110**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 258036**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 10/04/17 10:36 | 10/04/17 18:27 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 10/04/17 10:36 | 10/04/17 18:27 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 76           |              | 43 - 119 | 10/04/17 10:36 | 10/04/17 18:27 | 1       |

**Lab Sample ID: LCS 580-258036/2-A**

**Matrix: Water**

**Analysis Batch: 258110**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 258036**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.354      |               | mg/L |   | 71   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.389      |               | mg/L |   | 78   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 76            |               | 43 - 119 |

**Lab Sample ID: LCSD 580-258036/3-A**

**Matrix: Water**

**Analysis Batch: 258110**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 258036**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.368       |                | mg/L |   | 74   | 59 - 112 | 4   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.401       |                | mg/L |   | 80   | 64 - 120 | 3   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 80             |                | 43 - 119 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

**Client Sample ID: LAG\_EFF\_092817**

**Lab Sample ID: 580-71710-1**

Date Collected: 09/28/17 14:30

Matrix: Water

Date Received: 10/02/17 09:39

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258036       | 10/04/17 10:36       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258110       | 10/04/17 19:34       | CJ      | TAL SEA |

**Client Sample ID: LAG\_INF\_092817**

**Lab Sample ID: 580-71710-2**

Date Collected: 09/28/17 14:35

Matrix: Water

Date Received: 10/02/17 09:39

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258036       | 10/04/17 10:36       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258110       | 10/04/17 19:56       | CJ      | TAL SEA |

**Client Sample ID: MID\_INF\_092817**

**Lab Sample ID: 580-71710-3**

Date Collected: 09/28/17 14:40

Matrix: Water

Date Received: 10/02/17 09:39

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258036       | 10/04/17 10:36       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258110       | 10/04/17 20:18       | CJ      | TAL SEA |

**Client Sample ID: LEAD\_INF\_092817**

**Lab Sample ID: 580-71710-4**

Date Collected: 09/28/17 14:45

Matrix: Water

Date Received: 10/02/17 09:39

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258036       | 10/04/17 10:36       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258110       | 10/04/17 20:41       | CJ      | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71710-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-71710-1   | LAG_EFF_092817   | Water  | 09/28/17 14:30 | 10/02/17 09:39 |
| 580-71710-2   | LAG_INF_092817   | Water  | 09/28/17 14:35 | 10/02/17 09:39 |
| 580-71710-3   | MID_INF_092817   | Water  | 09/28/17 14:40 | 10/02/17 09:39 |
| 580-71710-4   | LEAD_INF_092817  | Water  | 09/28/17 14:45 | 10/02/17 09:39 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-71710-1

**Login Number: 71710**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Hobbs, Kenneth F**

| Question   | Answer | Comment     |
|--|--------|-------------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |             |
| The cooler's custody seal, if present, is intact.  | N/A    | Not present |
| Sample custody seals, if present, are intact.  | N/A    | Not Present |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |             |
| Samples were received on ice.  | True   |             |
| Cooler Temperature is acceptable.  | True   |             |
| Cooler Temperature is recorded.  | True   |             |
| COC is present.  | True   |             |
| COC is filled out in ink and legible.  | True   |             |
| COC is filled out with all pertinent information.  | True   |             |
| Is the Field Sampler's name present on COC?  | True   |             |
| There are no discrepancies between the containers received and the COC.                  | True   |             |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |             |
| Sample containers have legible labels.   | True   |             |
| Containers are not broken or leaking.  | True   |             |
| Sample collection date/times are provided.   | True   |             |
| Appropriate sample containers are used.  | True   |             |
| Sample bottles are completely filled.  | True   |             |
| Sample Preservation Verified.  | True   |             |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |             |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |             |
| Multiphasic samples are not present.   | True   |             |
| Samples do not require splitting or compositing.   | True   |             |
| Residual Chlorine Checked.   | N/A    |             |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-71860-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
1809 7th Ave. Suite 1111  
Seattle, Washington 98101

Attn: Rob Leet

*Kristine D. Allen*

Authorized for release by:  
10/13/2017 4:33:07 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

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**Job ID: 580-71860-1**

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**Laboratory: TestAmerica Seattle**

## Narrative

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**Job Narrative**  
**580-71860-1**

### Comments

No additional comments.

### Receipt

The samples were received on 10/6/2017 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.2° C.

### GC Semi VOA

Method(s) NWTPH-Dx: The peak profile present in this sample LAG\_EFF\_ 100517 (580-71860-1) is atypical of a hydrocarbon pattern and consists of two discrete peaks.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

**Client Sample ID: LAG\_EFF\_ 100517**

**Lab Sample ID: 580-71860-1**

**Date Collected: 10/05/17 12:20**

**Matrix: Water**

**Date Received: 10/06/17 10:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.10     |     | mg/L |   | 10/09/17 14:47 | 10/11/17 01:07 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 10/09/17 14:47 | 10/11/17 01:07 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>   | 74        |           | 50 - 150 |     |      |   | 10/09/17 14:47 | 10/11/17 01:07 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

**Client Sample ID: LAG\_INF\_ 100517**

**Lab Sample ID: 580-71860-2**

**Date Collected: 10/05/17 12:25**

**Matrix: Water**

**Date Received: 10/06/17 10:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.66      |           | 0.10     |     | mg/L |   | 10/09/17 14:47 | 10/11/17 01:28 | 1       |
| Motor Oil (>C24-C36) | 0.25      |           | 0.24     |     | mg/L |   | 10/09/17 14:47 | 10/11/17 01:28 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 83        |           | 50 - 150 |     |      |   | 10/09/17 14:47 | 10/11/17 01:28 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

**Client Sample ID: MID\_INF\_ 100517**

**Lab Sample ID: 580-71860-3**

**Date Collected: 10/05/17 12:30**

**Matrix: Water**

**Date Received: 10/06/17 10:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.2       |           | 0.10     |     | mg/L |   | 10/09/17 14:47 | 10/11/17 01:50 | 1       |
| Motor Oil (>C24-C36) | 0.45      |           | 0.24     |     | mg/L |   | 10/09/17 14:47 | 10/11/17 01:50 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 83        |           | 50 - 150 |     |      |   | 10/09/17 14:47 | 10/11/17 01:50 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

**Client Sample ID: LEAD\_INF\_ 100517**

**Lab Sample ID: 580-71860-4**

**Date Collected: 10/05/17 12:35**

**Matrix: Water**

**Date Received: 10/06/17 10:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.2       |           | 0.10     |     | mg/L |   | 10/09/17 14:47 | 10/13/17 11:54 | 1       |
| Motor Oil (>C24-C36) | 0.54      |           | 0.24     |     | mg/L |   | 10/09/17 14:47 | 10/13/17 11:54 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 89        |           | 50 - 150 |     |      |   | 10/09/17 14:47 | 10/13/17 11:54 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-258424/1-A**

**Matrix: Water**

**Analysis Batch: 258510**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 258424**

| Analyte              | MB Result | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11     |     | mg/L |   | 10/09/17 14:47 | 10/10/17 18:31 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25     |     | mg/L |   | 10/09/17 14:47 | 10/10/17 18:31 | 1       |
| Surrogate            | %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 73        |              | 50 - 150 |     |      |   | 10/09/17 14:47 | 10/10/17 18:31 | 1       |

**Lab Sample ID: LCS 580-258424/2-A**

**Matrix: Water**

**Analysis Batch: 258510**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 258424**

| Analyte              | Spike Added | LCS Result    | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|---------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.358         |               | mg/L |   | 72   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.409         |               | mg/L |   | 82   | 64 - 120 |
| Surrogate            | %Recovery   | LCS Qualifier | Limits        |      |   |      |          |
| <i>o</i> -Terphenyl  | 83          |               | 50 - 150      |      |   |      |          |

**Lab Sample ID: LCSD 580-258424/3-A**

**Matrix: Water**

**Analysis Batch: 258510**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 258424**

| Analyte              | Spike Added | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|----------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.403          |                | mg/L |   | 81   | 59 - 112 | 12  | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.432          |                | mg/L |   | 86   | 64 - 120 | 5   | 17    |
| Surrogate            | %Recovery   | LCSD Qualifier | Limits         |      |   |      |          |     |       |
| <i>o</i> -Terphenyl  | 88          |                | 50 - 150       |      |   |      |          |     |       |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

## Client Sample ID: LAG\_EFF\_ 100517

Lab Sample ID: 580-71860-1

Date Collected: 10/05/17 12:20

Matrix: Water

Date Received: 10/06/17 10:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258424       | 10/09/17 14:47       | REY     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258510       | 10/11/17 01:07       | W1T     | TAL SEA |

## Client Sample ID: LAG\_INF\_ 100517

Lab Sample ID: 580-71860-2

Date Collected: 10/05/17 12:25

Matrix: Water

Date Received: 10/06/17 10:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258424       | 10/09/17 14:47       | REY     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258510       | 10/11/17 01:28       | W1T     | TAL SEA |

## Client Sample ID: MID\_INF\_ 100517

Lab Sample ID: 580-71860-3

Date Collected: 10/05/17 12:30

Matrix: Water

Date Received: 10/06/17 10:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258424       | 10/09/17 14:47       | REY     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258510       | 10/11/17 01:50       | W1T     | TAL SEA |

## Client Sample ID: LEAD\_INF\_ 100517

Lab Sample ID: 580-71860-4

Date Collected: 10/05/17 12:35

Matrix: Water

Date Received: 10/06/17 10:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258424       | 10/09/17 14:47       | REY     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 258760       | 10/13/17 11:54       | ADB     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-71860-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-71860-1   | LAG_EFF_ 100517  | Water  | 10/05/17 12:20 | 10/06/17 10:30 |
| 580-71860-2   | LAG_INF_ 100517  | Water  | 10/05/17 12:25 | 10/06/17 10:30 |
| 580-71860-3   | MID_INF_ 100517  | Water  | 10/05/17 12:30 | 10/06/17 10:30 |
| 580-71860-4   | LEAD_INF_ 100517 | Water  | 10/05/17 12:35 | 10/06/17 10:30 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-71860-1

**Login Number: 71860**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Hobbs, Kenneth F**

| Question   | Answer | Comment                       |
|--|--------|-------------------------------|
| Radioactivity wasn't checked or is <= background as measured by a survey meter.  | N/A    |                               |
| The cooler's custody seal, if present, is intact.                                | N/A    | Not present                   |
| Sample custody seals, if present, are intact.                                    | N/A    | Not Present                   |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                               |
| Samples were received on ice.  | True   |                               |
| Cooler Temperature is acceptable.  | True   |                               |
| Cooler Temperature is recorded.  | True   |                               |
| COC is present.  | True   |                               |
| COC is filled out in ink and legible.  | True   |                               |
| COC is filled out with all pertinent information.                                | True   |                               |
| Is the Field Sampler's name present on COC?                                      | False  | Sampler's name is not present |
| There are no discrepancies between the containers received and the COC.          | True   |                               |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                               |
| Sample containers have legible labels.   | True   |                               |
| Containers are not broken or leaking.  | True   |                               |
| Sample collection date/times are provided.                                       | True   |                               |
| Appropriate sample containers are used.  | True   |                               |
| Sample bottles are completely filled.  | True   |                               |
| Sample Preservation Verified.  | True   |                               |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                               |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |                               |
| Multiphasic samples are not present.   | True   |                               |
| Samples do not require splitting or compositing.                                 | True   |                               |
| Residual Chlorine Checked.   | N/A    |                               |



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-72079-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
1809 7th Ave. Suite 1111  
Seattle, Washington 98101

Attn: Rob Leet



Authorized for release by:  
10/18/2017 1:16:01 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

**Job ID: 580-72079-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-72079-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/13/2017 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice.

#### Receipt Exceptions

Due to oversight, the temperature of the following samples was not recorded at time of receipt. The samples were received on wet ice which usually provides ample refrigeration.

LAG\_EFF\_101217 (580-72079-1), LAG\_INF\_101217 (580-72079-2), MID\_INF\_101217 (580-72079-3) and LEAD\_INF\_101217 (580-72079-4)

The Field Sampler was not listed on the Chain of Custody.

#### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_INF\_101217 (580-72079-2), MID\_INF\_101217 (580-72079-3) and LEAD\_INF\_101217 (580-72079-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

**Client Sample ID: LAG\_EFF\_101217**

**Lab Sample ID: 580-72079-1**

**Date Collected: 10/12/17 09:00**

**Matrix: Water**

**Date Received: 10/13/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |           | 0.10     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 20:45 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 0.24     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 20:45 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>   | 92        |           | 50 - 150 |     |      |   | 10/16/17 11:30 | 10/17/17 20:45 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

**Client Sample ID: LAG\_INF\_101217**

**Lab Sample ID: 580-72079-2**

**Date Collected: 10/12/17 09:05**

**Matrix: Water**

**Date Received: 10/13/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte                    | Result      | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-------------|-----------|----------|-----|------|---|----------------|----------------|---------|
| <b>#2 Diesel (C10-C24)</b> | <b>0.60</b> |           | 0.10     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 21:29 | 1       |
| Motor Oil (>C24-C36)       | ND          |           | 0.24     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 21:29 | 1       |
| Surrogate                  | %Recovery   | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o-Terphenyl</i>         | 87          |           | 50 - 150 |     |      |   | 10/16/17 11:30 | 10/17/17 21:29 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

**Client Sample ID: MID\_INF\_101217**

**Lab Sample ID: 580-72079-3**

**Date Collected: 10/12/17 09:10**

**Matrix: Water**

**Date Received: 10/13/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.1       |           | 0.10     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 21:51 | 1       |
| Motor Oil (>C24-C36) | 0.35      |           | 0.24     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 21:51 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 85        |           | 50 - 150 |     |      |   | 10/16/17 11:30 | 10/17/17 21:51 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

**Client Sample ID: LEAD\_INF\_101217**

**Lab Sample ID: 580-72079-4**

**Date Collected: 10/12/17 09:15**

**Matrix: Water**

**Date Received: 10/13/17 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.0       |           | 0.10     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 22:13 | 1       |
| Motor Oil (>C24-C36) | 0.39      |           | 0.24     |     | mg/L |   | 10/16/17 11:30 | 10/17/17 22:13 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 84        |           | 50 - 150 |     |      |   | 10/16/17 11:30 | 10/17/17 22:13 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-258893/1-A**

**Matrix: Water**

**Analysis Batch: 259044**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 258893**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 10/16/17 09:38 | 10/17/17 17:26 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 10/16/17 09:38 | 10/17/17 17:26 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 87           |              | 50 - 150 | 10/16/17 09:38 | 10/17/17 17:26 | 1       |

**Lab Sample ID: LCS 580-258893/2-A**

**Matrix: Water**

**Analysis Batch: 259044**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 258893**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.423      |               | mg/L |   | 85   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.452      |               | mg/L |   | 90   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 100           |               | 50 - 150 |

**Lab Sample ID: LCSD 580-258893/3-A**

**Matrix: Water**

**Analysis Batch: 259044**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 258893**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.436       |                | mg/L |   | 87   | 59 - 112 | 3   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.469       |                | mg/L |   | 94   | 64 - 120 | 4   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 99             |                | 50 - 150 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

**Client Sample ID: LAG\_EFF\_101217**

**Lab Sample ID: 580-72079-1**

Date Collected: 10/12/17 09:00

Matrix: Water

Date Received: 10/13/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258893       | 10/16/17 11:30       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 259044       | 10/17/17 20:45       | W1T     | TAL SEA |

**Client Sample ID: LAG\_INF\_101217**

**Lab Sample ID: 580-72079-2**

Date Collected: 10/12/17 09:05

Matrix: Water

Date Received: 10/13/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258893       | 10/16/17 11:30       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 259044       | 10/17/17 21:29       | W1T     | TAL SEA |

**Client Sample ID: MID\_INF\_101217**

**Lab Sample ID: 580-72079-3**

Date Collected: 10/12/17 09:10

Matrix: Water

Date Received: 10/13/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258893       | 10/16/17 11:30       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 259044       | 10/17/17 21:51       | W1T     | TAL SEA |

**Client Sample ID: LEAD\_INF\_101217**

**Lab Sample ID: 580-72079-4**

Date Collected: 10/12/17 09:15

Matrix: Water

Date Received: 10/13/17 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 258893       | 10/16/17 11:30       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 259044       | 10/17/17 22:13       | W1T     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72079-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-72079-1   | LAG_EFF_101217   | Water  | 10/12/17 09:00 | 10/13/17 17:30 |
| 580-72079-2   | LAG_INF_101217   | Water  | 10/12/17 09:05 | 10/13/17 17:30 |
| 580-72079-3   | MID_INF_101217   | Water  | 10/12/17 09:10 | 10/13/17 17:30 |
| 580-72079-4   | LEAD_INF_101217  | Water  | 10/12/17 09:15 | 10/13/17 17:30 |

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## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-72079-1

**Login Number: 72079**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |                                     |
| The cooler's custody seal, if present, is intact.  | True   |                                     |
| Sample custody seals, if present, are intact.  | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | False  | Refer to Job Narrative for details. |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.  | True   |                                     |
| Is the Field Sampler's name present on COC?  | False  | Refer to Job Narrative for details. |
| There are no discrepancies between the containers received and the COC.                  | True   |                                     |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.   | True   |                                     |
| Appropriate sample containers are used.  | True   |                                     |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | True   |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |                                     |
| Multiphasic samples are not present.   | True   |                                     |
| Samples do not require splitting or compositing.   | True   |                                     |
| Residual Chlorine Checked.   | N/A    |                                     |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-72327-1

Client Project/Site: BNSF Skykomish HWF

For:

Farallon Consulting LLC  
1809 7th Ave. Suite 1111  
Seattle, Washington 98101

Attn: Rob Leet



Authorized for release by:  
10/31/2017 3:12:10 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

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results through  
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Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

**Job ID: 580-72327-1**

**Laboratory: TestAmerica Seattle**

## Narrative

**Job Narrative**  
**580-72327-1**

### Comments

No additional comments.

### Receipt

The samples were received on 10/23/2017 4:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 13.8° C.

### Receipt Exceptions

The following samples was received at the laboratory outside the required temperature criteria: LAG\_EFF\_102017 (580-72327-1), LAG\_INF\_102017 (580-72327-2), MID\_INF\_102017 (580-72327-3) and LEAD\_INF\_102017 (580-72327-4).

### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_EFF\_102017 (580-72327-1), LAG\_INF\_102017 (580-72327-2), MID\_INF\_102017 (580-72327-3) and LEAD\_INF\_102017 (580-72327-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

**Client Sample ID: LAG\_EFF\_102017**

**Lab Sample ID: 580-72327-1**

Date Collected: 10/20/17 08:30

Matrix: Water

Date Received: 10/23/17 16:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.67      |           | 0.11     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 17:57 | 1       |
| Motor Oil (>C24-C36) | 0.51      |           | 0.24     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 17:57 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 69        |           | 50 - 150 |     |      |   | 10/27/17 12:28 | 10/30/17 17:57 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

**Client Sample ID: LAG\_INF\_102017**

**Lab Sample ID: 580-72327-2**

Date Collected: 10/20/17 08:35

Matrix: Water

Date Received: 10/23/17 16:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.6       |           | 0.11     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 18:19 | 1       |
| Motor Oil (>C24-C36) | 1.2       |           | 0.24     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 18:19 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 68        |           | 50 - 150 |     |      |   | 10/27/17 12:28 | 10/30/17 18:19 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

**Client Sample ID: MID\_INF\_102017**

**Lab Sample ID: 580-72327-3**

**Date Collected: 10/20/17 08:40**

**Matrix: Water**

**Date Received: 10/23/17 16:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 2.1       |           | 0.10     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 18:41 | 1       |
| Motor Oil (>C24-C36) | 1.4       |           | 0.24     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 18:41 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 71        |           | 50 - 150 |     |      |   | 10/27/17 12:28 | 10/30/17 18:41 | 1       |



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

**Client Sample ID: LEAD\_INF\_102017**

**Lab Sample ID: 580-72327-4**

**Date Collected: 10/20/17 08:45**

**Matrix: Water**

**Date Received: 10/23/17 16:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 2.0       |           | 0.10     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 19:03 | 1       |
| Motor Oil (>C24-C36) | 1.4       |           | 0.24     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 19:03 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 90        |           | 50 - 150 |     |      |   | 10/27/17 12:28 | 10/30/17 19:03 | 1       |



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-260052/1-A**

**Matrix: Water**

**Analysis Batch: 260212**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 260052**

| Analyte              | MB Result | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 16:51 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25     |     | mg/L |   | 10/27/17 12:28 | 10/30/17 16:51 | 1       |
| Surrogate            | %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 93        |              | 50 - 150 |     |      |   | 10/27/17 12:28 | 10/30/17 16:51 | 1       |

**Lab Sample ID: LCS 580-260052/2-A**

**Matrix: Water**

**Analysis Batch: 260212**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 260052**

| Analyte              | Spike Added | LCS Result    | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|---------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.420         |               | mg/L |   | 84   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.443         |               | mg/L |   | 89   | 64 - 120 |
| Surrogate            | %Recovery   | LCS Qualifier | Limits        |      |   |      |          |
| <i>o</i> -Terphenyl  | 80          |               | 50 - 150      |      |   |      |          |

**Lab Sample ID: LCSD 580-260052/3-A**

**Matrix: Water**

**Analysis Batch: 260212**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 260052**

| Analyte              | Spike Added | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|----------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.424          |                | mg/L |   | 85   | 59 - 112 | 1   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.445          |                | mg/L |   | 89   | 64 - 120 | 0   | 17    |
| Surrogate            | %Recovery   | LCSD Qualifier | Limits         |      |   |      |          |     |       |
| <i>o</i> -Terphenyl  | 87          |                | 50 - 150       |      |   |      |          |     |       |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

## Client Sample ID: LAG\_EFF\_102017

Lab Sample ID: 580-72327-1

Date Collected: 10/20/17 08:30

Matrix: Water

Date Received: 10/23/17 16:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260052       | 10/27/17 12:28       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 260212       | 10/30/17 17:57       | ADB     | TAL SEA |

## Client Sample ID: LAG\_INF\_102017

Lab Sample ID: 580-72327-2

Date Collected: 10/20/17 08:35

Matrix: Water

Date Received: 10/23/17 16:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260052       | 10/27/17 12:28       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 260212       | 10/30/17 18:19       | ADB     | TAL SEA |

## Client Sample ID: MID\_INF\_102017

Lab Sample ID: 580-72327-3

Date Collected: 10/20/17 08:40

Matrix: Water

Date Received: 10/23/17 16:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260052       | 10/27/17 12:28       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 260212       | 10/30/17 18:41       | ADB     | TAL SEA |

## Client Sample ID: LEAD\_INF\_102017

Lab Sample ID: 580-72327-4

Date Collected: 10/20/17 08:45

Matrix: Water

Date Received: 10/23/17 16:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260052       | 10/27/17 12:28       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 260212       | 10/30/17 19:03       | ADB     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish HWF

TestAmerica Job ID: 580-72327-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-72327-1   | LAG_EFF_102017   | Water  | 10/20/17 08:30 | 10/23/17 16:30 |
| 580-72327-2   | LAG_INF_102017   | Water  | 10/20/17 08:35 | 10/23/17 16:30 |
| 580-72327-3   | MID_INF_102017   | Water  | 10/20/17 08:40 | 10/23/17 16:30 |
| 580-72327-4   | LEAD_INF_102017  | Water  | 10/20/17 08:45 | 10/23/17 16:30 |

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**TestAmerica Seattle**

5755 8th Street East

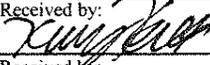
Tacoma, WA 98424  
phone 253.922.2310 fax 253.922.5047

**Chain of Custody Record**

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Laboratories, Inc.**

|   |  |  |                    |  |               |   |   |  |  |  |  |
|---|--|--|--------------------|--|---------------|---|---|--|--|--|--|
| <b>Client Contact</b>   |  | <b>Project Manager: Andrew Vining</b>      |                    | <b>Site Contact: Russell Luiten</b>                |               | <b>Date: 10/23/17</b>   |   | <b>COC No:</b>                                       |  |  |  |
| Farallon Consulting   |  | Tel/Fax: 425-295-0847                      |                    | Lab Contact: Kristine Allen                        |               | Carrier:  |   | 1 of 1 COCs  |  |  |  |
| 975 5th Avenue Northwest  |  | <b>Analysis Turnaround Time</b>            |                    | Filtered Sample<br>NWTPH-Dx w/o silica gel cleanup |               |   |   | Job No. Invoice attention to:<br>Shane Degross, BNSF |  |  |  |
| Issaquah, WA 98027  |  | Calendar (C) or Work Days (W) <u>W</u>     |                    |  |               |   |   | SDG No.  |  |  |  |
| (425) 295-0800 Phone  |  | TAT if different from Below _____          |                    |  |               |   |   | Sampler:   |  |  |  |
| (425) 295-0850 FAX  |  | <input type="checkbox"/> 2 weeks           |                    |  |               |   |   | Sample Specific Notes:                               |  |  |  |
| Project Name: Skykomish School HWF  |  | <input checked="" type="checkbox"/> 1 week |                    |  |               |   |   |  |  |  |  |
| Site: Skykomish Fueling Facility  |  | <input type="checkbox"/> 2 days            |                    |  |               |   |   |  |  |  |  |
| WO #: TT0100-Q13  |  | <input type="checkbox"/> 1 day             |                    |  |               |   |   |  |  |  |  |
| <b>Sample Identification</b>  |  | <b>Sample Date</b>                         | <b>Sample Time</b> | <b>Sample Type</b>                                 | <b>Matrix</b> | <b># of Cont.</b>   |   |  |  |  |  |
| LAG EFF 102017  |  | 10/20/17                                   | 830                | Grab   | W             | 2   | X |  |  | *** See instructions below                                     |  |
| LAG INF 102017  |  | 10/20/17                                   | 835                | Grab   | W             | 2   | X |  |  |  |  |
| MID INF 102017  |  | 10/20/17                                   | 840                | Grab   | W             | 2   | X |  |  |  |  |
| LEAD INF 102017   |  | 10/20/17                                   | 845                | Grab   | W             | 2   | X |  |  |  |  |
| <br>580-72327 Chain of Custody   |  |  |                    |  |               |   |   |  |  |  |  |
|   |  |  |                    |  |               |   |   |  |  |  |  |
|   |  |  |                    |  |               |   |   |  |  | Therm. ID <u>A2</u> Cor <u>B.8</u> Unc <u>B.9</u>              |  |
|   |  |  |                    |  |               |   |   |  |  | Cooler Dsc <u>Sm Blc@Lab</u>                                   |  |
|   |  |  |                    |  |               |   |   |  |  | Wet/Packs <u>Bubble</u><br>Custody Seal: Yes <u>2</u> No _____ |  |
|   |  |  |                    |  |               |   |   |  |  | 12600  |  |
| <b>Preservation Used:</b> 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other  |  |  |                    |  |               | 2   |   | 1  |  |  |  |
| <b>Possible Hazard Identification</b>   |  |  |                    |  |               | <b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>   |   |  |  |  |  |
| <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown |  |  |                    |  |               | <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |   |  |  |  |  |
| <b>Special Instructions/QC Requirements &amp; Comments:</b> 1) No silica gel cleanup  |  |  |                    |  |               |   |   |  |  |  |  |
| Relinquished by:   |  | Company: <u>Farallon</u>                   |                    | Date/Time: <u>10/23/17 900</u>                     |               | Received by:   |   | Company: <u>TAS</u>                                  |  | Date/Time: <u>10/23/17 1630</u>                                |  |
| Relinquished by:  |  | Company:                                   |                    | Date/Time:   |               | Received by:  |   | Company:   |  | Date/Time:   |  |
| Relinquished by:  |  | Company:                                   |                    | Date/Time:   |               | Received by:  |   | Company:   |  | Date/Time:   |  |

## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-72327-1

**Login Number: 72327**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Bean, Dennis L**

| Question   | Answer | Comment   |
|--|--------|---|
| Radioactivity wasn't checked or is <=/ background as measured by a survey meter. | True   |   |
| The cooler's custody seal, if present, is intact.                                | True   |   |
| Sample custody seals, if present, are intact.                                    | True   |   |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |   |
| Samples were received on ice.  | True   |   |
| Cooler Temperature is acceptable.  | False  | Cooler temperature outside required temperature criteria. |
| Cooler Temperature is recorded.  | True   |   |
| COC is present.  | True   |   |
| COC is filled out in ink and legible.  | True   |   |
| COC is filled out with all pertinent information.                                | True   |   |
| Is the Field Sampler's name present on COC?                                      | True   |   |
| There are no discrepancies between the containers received and the COC.          | True   |   |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |   |
| Sample containers have legible labels.   | True   |   |
| Containers are not broken or leaking.  | True   |   |
| Sample collection date/times are provided.                                       | True   |   |
| Appropriate sample containers are used.  | True   |   |
| Sample bottles are completely filled.  | True   |   |
| Sample Preservation Verified.  | True   |   |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |   |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |   |
| Multiphasic samples are not present.   | True   |   |
| Samples do not require splitting or compositing.                                 | True   |   |
| Residual Chlorine Checked.   | N/A    |   |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-72455-1

Client Project/Site: Skykomish School HWF

For:

Farallon Consulting LLC  
1809 7th Ave. Suite 1111  
Seattle, Washington 98101

Attn: Rob Leet



Authorized for release by:  
11/3/2017 5:42:31 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

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**Job ID: 580-72455-1**

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**Laboratory: TestAmerica Seattle**

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## Narrative

### Job Narrative 580-72455-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/27/2017 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.3° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LAG\_EFF\_102617 (580-72455-1), LAG\_INF\_102617 (580-72455-2), MID\_INF\_102617 (580-72455-3) and LEAD\_INF\_102617 (580-72455-4).

Method(s) NWTPH-Dx: The following sample was diluted due to sample color: LAG\_INF\_102617 (580-72455-2). Elevated reporting limits (RL) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ▫              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

**Client Sample ID: LAG\_EFF\_102617**

**Lab Sample ID: 580-72455-1**

Date Collected: 10/26/17 10:00

Matrix: Water

Date Received: 10/27/17 14:40

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 0.70      |           | 0.10     |     | mg/L |   | 10/30/17 08:33 | 11/02/17 11:15 | 1       |
| Motor Oil (>C24-C36) | 0.80      |           | 0.24     |     | mg/L |   | 10/30/17 08:33 | 11/02/17 11:15 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 76        |           | 50 - 150 |     |      |   | 10/30/17 08:33 | 11/02/17 11:15 | 1       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

**Client Sample ID: LAG\_INF\_102617**

**Lab Sample ID: 580-72455-2**

Date Collected: 10/26/17 10:05

Matrix: Water

Date Received: 10/27/17 14:40

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.4       |           | 0.21     |     | mg/L |   | 10/30/17 08:33 | 11/03/17 11:50 | 2       |
| Motor Oil (>C24-C36) | 1.0       |           | 0.48     |     | mg/L |   | 10/30/17 08:33 | 11/03/17 11:50 | 2       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 82        |           | 50 - 150 |     |      |   | 10/30/17 08:33 | 11/03/17 11:50 | 2       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

**Client Sample ID: MID\_INF\_102617**

**Lab Sample ID: 580-72455-3**

**Date Collected: 10/26/17 10:10**

**Matrix: Water**

**Date Received: 10/27/17 14:40**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.6       |           | 0.52     |     | mg/L |   | 10/30/17 08:33 | 11/02/17 16:15 | 5       |
| Motor Oil (>C24-C36) | 1.2       |           | 1.2      |     | mg/L |   | 10/30/17 08:33 | 11/02/17 16:15 | 5       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 77        |           | 50 - 150 |     |      |   | 10/30/17 08:33 | 11/02/17 16:15 | 5       |

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

**Client Sample ID: LEAD\_INF\_102617**

**Lab Sample ID: 580-72455-4**

Date Collected: 10/26/17 10:20

Matrix: Water

Date Received: 10/27/17 14:40

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 1.7       |           | 0.52     |     | mg/L |   | 10/30/17 08:33 | 11/02/17 16:43 | 5       |
| Motor Oil (>C24-C36) | 1.3       |           | 1.2      |     | mg/L |   | 10/30/17 08:33 | 11/02/17 16:43 | 5       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| <i>o</i> -Terphenyl  | 77        |           | 50 - 150 |     |      |   | 10/30/17 08:33 | 11/02/17 16:43 | 5       |

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-260205/1-A**

**Matrix: Water**

**Analysis Batch: 260422**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 260205**

| Analyte              | MB Result | MB Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND        |              | 0.11 |     | mg/L |   | 10/30/17 08:33 | 11/02/17 09:52 | 1       |
| Motor Oil (>C24-C36) | ND        |              | 0.25 |     | mg/L |   | 10/30/17 08:33 | 11/02/17 09:52 | 1       |

| Surrogate           | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------------|--------------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 76           |              | 50 - 150 | 10/30/17 08:33 | 11/02/17 09:52 | 1       |

**Lab Sample ID: LCS 580-260205/2-A**

**Matrix: Water**

**Analysis Batch: 260422**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 260205**

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------------------|-------------|------------|---------------|------|---|------|----------|
| #2 Diesel (C10-C24)  | 0.500       | 0.403      |               | mg/L |   | 81   | 59 - 112 |
| Motor Oil (>C24-C36) | 0.500       | 0.451      |               | mg/L |   | 90   | 64 - 120 |

| Surrogate           | LCS %Recovery | LCS Qualifier | Limits   |
|---------------------|---------------|---------------|----------|
| <i>o</i> -Terphenyl | 92            |               | 50 - 150 |

**Lab Sample ID: LCSD 580-260205/3-A**

**Matrix: Water**

**Analysis Batch: 260422**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 260205**

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
| #2 Diesel (C10-C24)  | 0.500       | 0.387       |                | mg/L |   | 77   | 59 - 112 | 4   | 16    |
| Motor Oil (>C24-C36) | 0.500       | 0.444       |                | mg/L |   | 89   | 64 - 120 | 2   | 17    |

| Surrogate           | LCSD %Recovery | LCSD Qualifier | Limits   |
|---------------------|----------------|----------------|----------|
| <i>o</i> -Terphenyl | 88             |                | 50 - 150 |

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

**Client Sample ID: LAG\_EFF\_102617**

**Lab Sample ID: 580-72455-1**

Date Collected: 10/26/17 10:00

Matrix: Water

Date Received: 10/27/17 14:40

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260205       | 10/30/17 08:33       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 260422       | 11/02/17 11:15       | CJ      | TAL SEA |

**Client Sample ID: LAG\_INF\_102617**

**Lab Sample ID: 580-72455-2**

Date Collected: 10/26/17 10:05

Matrix: Water

Date Received: 10/27/17 14:40

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260205       | 10/30/17 08:33       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 2               | 260629       | 11/03/17 11:50       | ADB     | TAL SEA |

**Client Sample ID: MID\_INF\_102617**

**Lab Sample ID: 580-72455-3**

Date Collected: 10/26/17 10:10

Matrix: Water

Date Received: 10/27/17 14:40

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260205       | 10/30/17 08:33       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 5               | 260575       | 11/02/17 16:15       | ADB     | TAL SEA |

**Client Sample ID: LEAD\_INF\_102617**

**Lab Sample ID: 580-72455-4**

Date Collected: 10/26/17 10:20

Matrix: Water

Date Received: 10/27/17 14:40

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3510C        |     |                 | 260205       | 10/30/17 08:33       | NDB     | TAL SEA |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 5               | 260575       | 11/02/17 16:43       | ADB     | TAL SEA |

**Laboratory References:**

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| Washington | State Program | 10         | C553                  | 02-17-18        |

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
|-----------------|-------------|--------|---------|

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: Skykomish School HWF

TestAmerica Job ID: 580-72455-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-72455-1   | LAG_EFF_102617   | Water  | 10/26/17 10:00 | 10/27/17 14:40 |
| 580-72455-2   | LAG_INF_102617   | Water  | 10/26/17 10:05 | 10/27/17 14:40 |
| 580-72455-3   | MID_INF_102617   | Water  | 10/26/17 10:10 | 10/27/17 14:40 |
| 580-72455-4   | LEAD_INF_102617  | Water  | 10/26/17 10:20 | 10/27/17 14:40 |

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-72455-1

**Login Number: 72455**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Gall, Brandon A**

| Question   | Answer | Comment                                  |
|--|--------|--|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    | Lab does not accept radioactive samples. |
| The cooler's custody seal, if present, is intact.  | True   |  |
| Sample custody seals, if present, are intact.  | True   |  |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |  |
| Samples were received on ice.  | True   |  |
| Cooler Temperature is acceptable.  | True   |  |
| Cooler Temperature is recorded.  | True   |  |
| COC is present.  | True   |  |
| COC is filled out in ink and legible.  | True   |  |
| COC is filled out with all pertinent information.  | True   |  |
| Is the Field Sampler's name present on COC?  | False  | No Name                                  |
| There are no discrepancies between the containers received and the COC.                  | True   |  |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |  |
| Sample containers have legible labels.   | True   |  |
| Containers are not broken or leaking.  | True   |  |
| Sample collection date/times are provided.   | True   |  |
| Appropriate sample containers are used.  | True   |  |
| Sample bottles are completely filled.  | True   |  |
| Sample Preservation Verified.  | True   |  |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |  |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |  |
| Multiphasic samples are not present.   | True   |  |
| Samples do not require splitting or compositing.   | True   |  |
| Residual Chlorine Checked.   | N/A    |  |

**APPENDIX D**  
**DATA VALIDATION REPORT**

2017 HOT WATER FLUSHING REMEDIATION  
PERFORMANCE REPORT  
Skykomish School  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington

Farallon PN: 683-067



## DATA VALIDATION REPORT

### *Skykomish Hot Water Flushing June through October 2017 Data*

Prepared for:  
Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

January 16, 2018

### 1.0 Introduction

Data Validation was performed on the following water samples:

| Sample ID       | Sample Date/Time | Lab ID      | Analyses |
|-----------------|------------------|-------------|----------|
| LAG_EFF_060817  | 06/08/2017 11:25 | 580-69071-1 | TPH-Dx   |
| LAG_INF_060817  | 06/08/2017 11:30 | 580-69071-2 | TPH-Dx   |
| LEAD_INF_060817 | 06/08/2017 11:35 | 580-69071-3 | TPH-Dx   |
| LAG_EFF_061417  | 06/14/2017 13:30 | 580-69280-1 | TPH-Dx   |
| LAG_INF_061417  | 06/14/2017 13:35 | 580-69280-2 | TPH-Dx   |
| LEAD_INF_061417 | 06/14/2017 13:40 | 580-69280-3 | TPH-Dx   |
| LAG_EFF_062217  | 06/22/2017 07:45 | 580-69441-1 | TPH-Dx   |
| LAG_INF_062217  | 06/22/2017 07:50 | 580-69441-2 | TPH-Dx   |
| LEAD_INF_062217 | 06/22/2017 07:55 | 580-69441-3 | TPH-Dx   |
| LAG_EFF_062917  | 06/29/2017 08:30 | 580-69668-1 | TPH-Dx   |
| LAG_INF_062917  | 06/29/2017 08:35 | 580-69668-2 | TPH-Dx   |
| LEAD_INF_062917 | 06/29/2017 08:40 | 580-69668-3 | TPH-Dx   |
| LAG_EFF_070617  | 07/06/2017 15:35 | 580-69755-1 | TPH-Dx   |
| LAG_INF_070617  | 07/06/2017 15:40 | 580-69755-2 | TPH-Dx   |
| LEAD_INF_070617 | 07/06/2017 15:45 | 580-69755-3 | TPH-Dx   |
| LAG_EFF_071417  | 07/14/2017 12:05 | 580-69951-1 | TPH-Dx   |
| LAG_INF_071417  | 07/14/2017 12:00 | 580-69951-2 | TPH-Dx   |
| LEAD_INF_071417 | 07/14/2017 11:50 | 580-69951-3 | TPH-Dx   |
| LAG_EFF_072117  | 07/21/2017 12:30 | 580-70110-1 | TPH-Dx   |
| LAG_INF_072117  | 07/21/2017 12:25 | 580-70110-2 | TPH-Dx   |
| LEAD_INF_072117 | 07/21/2017 12:20 | 580-70110-3 | TPH-Dx   |
| LAG_EFF_072717  | 07/27/2017 14:45 | 580-70252-1 | TPH-Dx   |
| LAG_INF_072717  | 07/27/2017 14:50 | 580-70252-2 | TPH-Dx   |
| LEAD_INF_072717 | 07/27/2017 14:55 | 580-70252-3 | TPH-Dx   |
| LAG_EFF_080317  | 08/03/2017 15:25 | 580-70415-1 | TPH-Dx   |
| LAG_INF_080317  | 08/03/2017 15:30 | 580-70415-2 | TPH-Dx   |
| Lead_INF_080317 | 08/03/2017 15:35 | 580-70415-3 | TPH-Dx   |
| LAG_EFF_081017  | 08/10/2017 08:30 | 580-70549-1 | TPH-Dx   |
| LAG_INF_081017  | 08/10/2017 08:35 | 580-70549-2 | TPH-Dx   |
| MID_INF_081017  | 08/10/2017 08:40 | 580-70549-3 | TPH-Dx   |

| Sample ID       | Sample Date/Time | Lab ID      | Analyses |
|-----------------|------------------|-------------|----------|
| LEAD_INF_081017 | 08/10/2017 08:45 | 580-70549-4 | TPH-Dx   |
| LAG_EFF_081717  | 08/17/2017 14:30 | 580-70701-1 | TPH-Dx   |
| LAG_INF_081717  | 08/17/2017 14:35 | 580-70701-2 | TPH-Dx   |
| MID_INF_081717  | 08/17/2017 14:40 | 580-70701-3 | TPH-Dx   |
| LEAD_INF_081717 | 08/17/2017 14:45 | 580-70701-4 | TPH-Dx   |
| LAG_EFF_082317  | 08/23/2017 09:00 | 580-70832-1 | TPH-Dx   |
| LAG_INF_082317  | 08/23/2017 09:05 | 580-70832-2 | TPH-Dx   |
| MID_INF_082317  | 08/23/2017 09:10 | 580-70832-3 | TPH-Dx   |
| LEAD_INF_082317 | 08/23/2017 09:15 | 580-70832-4 | TPH-Dx   |
| LAG_EFF_083017  | 08/30/2017 09:10 | 580-71002-1 | TPH-Dx   |
| LAG_INF_083017  | 08/30/2017 09:15 | 580-71002-2 | TPH-Dx   |
| MID_INF_083017  | 08/30/2017 09:20 | 580-71002-3 | TPH-Dx   |
| LEAD_INF_083017 | 08/30/2017 09:25 | 580-71002-4 | TPH-Dx   |
| LAG_EFF_090717  | 09/07/2017 07:40 | 580-71127-1 | TPH-Dx   |
| LAG_INF_090717  | 09/07/2017 07:45 | 580-71127-2 | TPH-Dx   |
| MID_INF_090717  | 09/07/2017 07:50 | 580-71127-3 | TPH-Dx   |
| LEAD_INF_090717 | 09/07/2017 07:55 | 580-71127-4 | TPH-Dx   |
| LAG_EFF_091417  | 09/14/2017 08:25 | 580-71321-1 | TPH-Dx   |
| LAG_INF_091417  | 09/14/2017 08:30 | 580-71321-2 | TPH-Dx   |
| MID_INF_091417  | 09/14/2017 08:35 | 580-71321-3 | TPH-Dx   |
| LEAD_INF_091417 | 09/14/2017 08:40 | 580-71321-4 | TPH-Dx   |
| LAG_EFF_092117  | 09/21/2017 12:00 | 580-71534-1 | TPH-Dx   |
| LAG_INF_092117  | 09/21/2017 12:05 | 580-71534-2 | TPH-Dx   |
| MID_INF_092117  | 09/21/2017 12:10 | 580-71534-3 | TPH-Dx   |
| LEAD_INF_092117 | 09/21/2017 12:15 | 580-71534-4 | TPH-Dx   |
| LAG_EFF_092817  | 09/28/2017 14:30 | 580-71710-1 | TPH-Dx   |
| LAG_INF_092817  | 09/28/2017 14:35 | 580-71710-2 | TPH-Dx   |
| MID_INF_092817  | 09/28/2017 14:40 | 580-71710-3 | TPH-Dx   |
| LEAD_INF_092817 | 09/28/2017 14:45 | 580-71710-4 | TPH-Dx   |
| LAG_EFF_100517  | 10/05/2017 12:20 | 580-71860-1 | TPH-Dx   |
| LAG_INF_100517  | 10/05/2017 12:25 | 580-71860-2 | TPH-Dx   |
| MID_INF_100517  | 10/05/2017 12:30 | 580-71860-3 | TPH-Dx   |
| LEAD_INF_100517 | 10/05/2017 12:35 | 580-71860-4 | TPH-Dx   |
| LAG_EFF_101217  | 10/12/2017 09:00 | 580-72079-1 | TPH-Dx   |
| LAG_INF_101217  | 10/12/2017 09:05 | 580-72079-2 | TPH-Dx   |
| MID_INF_101217  | 10/12/2017 09:10 | 580-72079-3 | TPH-Dx   |
| LEAD_INF_101217 | 10/12/2017 09:15 | 580-72079-4 | TPH-Dx   |
| LAG_EFF_102017  | 10/20/2017 08:30 | 580-72327-1 | TPH-Dx   |
| LAG_INF_102017  | 10/20/2017 08:35 | 580-72327-2 | TPH-Dx   |
| MID_INF_102017  | 10/20/2017 08:40 | 580-72327-3 | TPH-Dx   |
| LEAD_INF_102017 | 10/20/2017 08:45 | 580-72327-4 | TPH-Dx   |
| LAG_EFF_102617  | 10/26/2017 10:00 | 580-72455-1 | TPH-Dx   |
| LAG_INF_102617  | 10/26/2017 10:05 | 580-72455-2 | TPH-Dx   |
| MID_INF_102617  | 10/26/2017 10:10 | 580-72455-3 | TPH-Dx   |
| LEAD_INF_102617 | 10/26/2017 10:20 | 580-72455-4 | TPH-Dx   |

The sample IDs in the laboratory report matched the chain of custody.

Analyses: Analysis was performed by TestAmerica Laboratories Inc, in Tacoma, Washington. The following methods were utilized:

| Analysis                                   | Analysis method | Preparation method |
|--|-----------------|--------------------|
| Diesel Range Petroleum Hydrocarbons (TPHD) | NWTPH-Dx        | SW3510C            |

Please note: TPHD analysis was performed without silica gel cleanup meeting requirements.

Validation: A stage 2A summary validation was performed on the electronic data deliverable and the hardcopy (portable document format) analytical results, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Saylor.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. Validation qualifiers are summarized in section 3.0.

## 2.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

Each batch included a method blank, LCS, and LCSD, as well as appropriate surrogates. No qualifiers are assigned based on the absence of a matrix duplicate.

Holding times: Water samples must be extracted within 7 days of collection if unpreserved and within 14 days of collection if preserved. Extracts must be analyzed within 40 days of extraction. All samples were preserved. Analyses were extracted and analyzed within holding times.

Cooler temperatures upon receipt at the laboratory exceeded the acceptable range as follows:

| Sample Date | Cooler receipt temperature, °C | Acceptable Temperature Range, °C |
|-------------|--------------------------------|----------------------------------|
| 08/17/2017  | 14.2                           | 0-6                              |
| 10/20/2017  | 13.8                           | 0-6                              |

Results in these samples are qualified as estimated.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target analytes were detected in the method blanks.

Surrogate recoveries: Laboratory control limits ranged from 43-119 to 50-150%. Surrogate recoveries were within limits with the following exceptions:

| Sample ID       | Surrogate   | % Recovery | Lab Control Limit |
|-----------------|-------------|------------|-------------------|
| LAG_EFF_083017  | o-Terphenyl | 126        | 43 - 119          |
| LEAD_INF_070617 | o-Terphenyl | 20         | 43 - 119          |
| LEAD_INF_071417 | o-Terphenyl | 183        | 43 - 119          |
| LEAD_INF_081717 | o-Terphenyl | 150        | 43 - 119          |
| LEAD_INF_082317 | o-Terphenyl | 7          | 43 - 119          |

TPH was not detected in sample LAG\_EFF\_083017, and no qualifiers are required. In the remaining samples, matrix interference was noted by the laboratory and positive results are qualified as estimated. Non-detect results are considered unaffected.

LCS recoveries: Laboratory control limits ranged from 59-112 to 64-120%. LCS recoveries were within limits with the following exceptions:

| QC ID               | Analyte              | % Recovery | Lab Control Limit |
|---------------------|----------------------|------------|-------------------|
| LCSD 580-255474/3-A | #2 Diesel (C10-C24)  | 140        | 59 - 112          |
| LCSD 580-255474/3-A | Motor Oil (>C24-C36) | 163        | 64 - 120          |
| LCS 580-255474/2-A  | #2 Diesel (C10-C24)  | 122        | 59 - 112          |
| LCS 580-255474/2-A  | Motor Oil (>C24-C36) | 143        | 64 - 120          |

TPH was not detected in the associated samples and data are considered unaffected.

LCS/LCSD RPDs: The laboratory control limits for RPDs were 16 and 17%. RPDs were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. Target reporting limits were exceeded as follows:

| Analyte              | Highest RL (mg/L) | Target RL (mg/L) | Remediation Level (mg/L) |
|----------------------|-------------------|------------------|--------------------------|
| #2 Diesel (C10-C24)  | 0.11              | 0.1              | 0.477                    |
| Motor Oil (>C24-C36) | 0.25              | 0.1              |                          |

The remediation level was met for each sample and data are considered unaffected.

Laboratory narrative and flags: Several laboratory narratives specified continuing calibrations with high responses. However, none of the outliers were associated with positive sample results, and no qualifiers were required.

Diesel range petroleum hydrocarbon data are acceptable for use as qualified.

### 3.0 Qualifier Summary Table

| Client ID       | Analyte(s)                                | Qualifier | Reason   |
|-----------------|---|-----------|--|
| LAG_EFF_081717  | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | UJ        | High cooler receipt temperature  |
| LAG_EFF_102017  | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | J         | High cooler receipt temperature  |
| LAG_INF_081717  | #2 Diesel (C10-C24)                       | J         | High cooler receipt temperature  |
| LAG_INF_081717  | Motor Oil (>C24-C36)                      | UJ        | High cooler receipt temperature  |
| LAG_INF_102017  | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | J         | High cooler receipt temperature  |
| LEAD_INF_070617 | #2 Diesel (C10-C24)                       | J         | Matrix interference in surrogate recovery                                  |
| LEAD_INF_071417 | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | J         | Matrix interference in surrogate recovery                                  |
| LEAD_INF_081717 | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | J         | High cooler receipt temperature, Matrix interference in surrogate recovery |
| LEAD_INF_082317 | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | J         | Matrix interference in surrogate recovery                                  |
| LEAD_INF_102017 | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | J         | High cooler receipt temperature  |
| MID_INF_081717  | #2 Diesel (C10-C24)                       | J         | High cooler receipt temperature  |
| MID_INF_081717  | Motor Oil (>C24-C36)                      | UJ        | High cooler receipt temperature  |
| MID_INF_102017  | #2 Diesel (C10-C24), Motor Oil (>C24-C36) | J         | High cooler receipt temperature  |

## 4.0 Abbreviations and Definitions

| <u>DV Qualifier</u> | <u>Definition</u>   |
|---------------------|---|
| U                   | The material was analyzed for, but was not detected above the level of the associated value.  |
| J                   | The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.                              |
| N                   | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.                                     |
| UJ                  | The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.                                      |
| R                   | The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.   |
| R1                  | This sample result has been rejected in favor of a more accurate, precise or conservative result. The other result should be used.                                |
| R2                  | This sample result has been rejected in favor of a more accurate, precise or conservative result from another analytical method. The other result should be used. |

| <u>Abbreviation</u> | <u>Definition</u>                   |
|---------------------|-------------------------------------|
| DV                  | Data validation                     |
| LCS                 | Laboratory control sample           |
| LCSD                | Laboratory control sample duplicate |
| MS                  | Matrix spike                        |
| MSD                 | Matrix spike duplicate              |
| RL                  | Reporting limit                     |
| RPD                 | Relative percent difference         |
| RSD                 | Relative standard deviations        |
| SDG                 | Sample Delivery Group               |
| SRM                 | Standard reference material         |

## 5.0 References

*USEPA Contract Laboratory Program National Functional Guidelines For Superfund Organic Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency, June 2008, USEPA-540-R-008-01.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.