

DRAFT

## EXCAVATION CLEANUP AND CLOSURE REPORT

North Star Casteel (Formerly Varicast Inc.)  
1200 West 13<sup>th</sup> Street  
Vancouver, Washington  
VCP Identification: SW1712

May 20, 2022

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Prepared For:

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**ABBREVIATION AND ACRONYM LIST**

AEG	Associated Environmental Group, LLC
AOPC	Area of potential concern
AST	Above ground storage tank
BNSF	Burlington Northern Santa Fe
bsg	Below surface grade
BTEX	Benzene, toluene, ethylbenzene, xylene
BTOC	Below top of casing
COCs	Constituents of concern
COPCs	Constituents of potential concern
cPAHs	Carcinogenic polycyclic aromatic hydrocarbons
CSM	Conceptual site model
CULs	Cleanup levels
Ecology	Washington State Department of Ecology
EDB	Ethylene Dibromide
EM	Electromagnetic
EPI	Environmental Partners, Inc.
GPR	Ground penetrating radar
Magna	Magna Construction Services, Inc.
MDCs	Maximum detected concentrations
mm	Millimeters
MSBA	Martin S. Burck Associates, Inc.
MTCA	Model Toxics Control Act
NSC	North Star Casteel
Pace	Pace Analytical
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PCE	Tetrachloroethylene
PHCs	Petroleum hydrocarbons
Phase I	Phase I Environmental Site Assessment
Phase II	Phase II Environmental Site Assessment
PID	Photo-ionization detector
ppb	Parts per billion
ppm	Parts per million
PVC	Polyvinyl chloride
RCRA	Resource conservation recovery act
RECs	Recognized environmental conditions
RL	Reporting limit
sq.ft.	Square foot
TCLP	Toxicity characteristic leaching procedure
TEFs	Toxicity equivalent factors
TEQ	Toxicity equivalent concentration
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
UST	Underground storage tank
VOC	Volatile organic compound
WAC	Washington administrative code
WRP	Water Resources Program

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### 1.0 INTRODUCTION

Martin S. Burck Associates, Inc. (MSBA) has prepared the following *Excavation Cleanup and Closure Report* on behalf of North Star Casteel (NSC) for the property referenced above. The site location is shown on Figure 1a. Previous sampling activities performed by others documented elevated concentrations of petroleum hydrocarbons (PHCs), PHC constituents, metals, and polychlorinated biphenyls (PCBs) in shallow soil attributed to the site's historic operation as an industrial cast steel. This report presents a summary of previous site investigation and cleanup activities, additional excavation cleanup and sampling activities by MSBA, a site specific conceptual site model, an evaluation of applicable exposure pathways, and a recommendation for a no further action determination.

#### 1.1 General Site Information

The site has reportedly been operated as a cast steel foundry since the 1920s. Historic operations at the site may have included metal refining, smelting, alloying, and other related industrial processes. The site has been operated by several different owners and operators and was recently purchased by NSC in 2018, who continues to operate the cast steel foundry. The property was formerly operated as Swartz Steel Facility and Varicast Inc. The general site layout is illustrated on Figure 2.

In 2017 and 2018, site investigation activities were conducted as part of NSC's pre-purchase due diligence. Soil sampling and analyses at the time determined that PHCs, PHC constituents, metals, and PCBs were present in shallow soil at concentrations exceeding the Model Toxics Control Act (MTCA) Method A cleanup levels (CULs) for unrestricted land uses.

The site consists of 14 tax lots totaling 3.28 acres in Vancouver, Washington, northwest of the intersection of West 13<sup>th</sup> Street (W 13<sup>th</sup> St) and Lincoln Avenue (Lincoln Ave) (Figure 1b). The property is located within the southeast quarter of the northeast quarter of Section 28, Township 2 North, Range 1 East and the tax parcel identification number is 59810000. The site is relatively flat, sloping gently downward to the south and west. A steeper embankment is located along the western perimeter of the site. There are currently five primary structures at the property as shown on Figure 2: 1) a foundry building (~25,000 square foot (sq. ft.)), 2) a maintenance shop (~4,100 sq. ft.), 3) a welding building (~3,200 sq. ft.), 4) a residence (~ 450 sq. ft.), and an office (~950 sq. ft.).

NSC plans to remove the residence in the near future, however, it was occupied at the time this report was prepared. Two Quonset hut style storage buildings approximately 800 and 1,200 sq. ft. in size are located near the northwest portion of the property. The Quonset buildings are primarily used for storage. An underground storage tank (UST) was present adjacent to the foundry building and was reportedly installed for use as emergency overflow storage of transformer oil (Figure 2). The UST was reportedly never used and was decommissioned in-place in 2021 as discussed in Section 5.3. No additional known USTs or above ground storage tanks (ASTs) are located at the property. The previous owner, Dan Swartz, reported that USTs were previously located at the property, however, their former locations, contents, and decommissioning status are unknown.

Stormwater runoff from the foundry building roof is discharged to Grattix rain boxes prior to surface discharge and infiltration into the ground. The Grattix rain boxes are designed to remove zinc in stormwater from galvanized metal roofs. Based on a review of previous stormwater documentation, there appears to be two dry wells, one located in the parking area near the southwest corner of the property within area of potential concern (AOPC) 6 and the other within AOPC 1, near the eastern property boundary (Figure 2).

The site is located in an industrial area with mixed commercial and residential land use to the north and east (Figure 1b). The site is bounded to the south by a former bulk fuel facility that is now operated by Emerald Petroleum Services (Emerald) as a used oil collection, treatment, and resale facility with numerous ASTs (Facility ID: 47231541) (Figure 1b). Confirmed releases of PHCs and chlorinated solvents have impacted soil and groundwater at this adjacent property. The site is bounded to the west by a Burlington Northern Santa Fe (BNSF) railway and several associated buildings. The site is bounded to the north by the Erwin O. Rieger Memorial Highway (WA-501) and residential properties north of the highway. The site is bounded to the east by Lincoln Avenue and the Lincoln Place Apartments and a commercial building across the street.

### **1.3 Subsurface Conditions and Hydrogeology**

Subsurface conditions at the site were observed and documented by Environmental Partners Inc. (EPI) during pre-purchase due diligence investigations to a maximum approximate depth of 60 feet below surface grade (bsg) and by MSBA to a depth of 65 feet bsg. Soil at the site is comprised of fine to coarse grain alluvial sediments. Poorly graded sand with gravel (United Soil Classification

System group symbol SP) was the most prevalent soil type encountered. Sandy silt and silty sand (ML) were also common. Groundwater was encountered at depths ranging from 34.5 feet bsg to 54 feet bsg. Soil encountered within the uppermost aquifer was primarily comprised of poorly graded sand and poorly graded sand with gravel (SP). The inferred groundwater flow direction is to the south to southwest based on the general downward slope of the surface topography and groundwater data from the adjacent Emerald site.

## 2.0 PREVIOUS ENVIRONMENTAL SITE WORK - EPI

The following sections present a summary of previous investigation activities conducted at the site by EPI.

### 2.1 Phase I Environmental Site Assessment - EPI

In October 2017, EPI completed a *Phase I Environmental Site Assessment* (Phase I) report, dated October 31, 2017. A link to an electronic copy of the Phase I is presented in Appendix A of this report. The Phase I was completed as pre-purchase due diligence on behalf of NSC. The Phase I identified the following three recognized environmental conditions (RECs):

**REC 1: Historical Operation as a Foundry:** Fifteen AOPCs related to the foundry operation were identified on the property. The approximate outlines of the the fifteen AOPCs are illustrated on Figure 2 and labeled as:

- AOPC 1: Metal Receiving Area
- AOPC 2: Electric Arc Furnace Area
- AOPC 3: Foundry Building
- AOPC 4: Stormwater Drain - Main Yard
- AOPC 5: Southwest Compressor
- AOPC 6: Southwest Drywell
- AOPC 7: South Compressor
- AOPC 8: Maintenance Shop Building
- AOPC 9: Welding Station Building
- AOPC 10: Stormwater Retention Structure
- AOPC 11: Oil-Sand Storage and Baghouse
- AOPC 12: Northwest Petroleum Storage
- AOPC 13: Foundry Waste Material
- AOPC 14: North Compressor
- AOPC 15: Clark County Transformer

**REC 2:** Stormwater Compliance: EPI raised concerns regarding stormwater compliance at the property due to the potential for hazardous substances and petroleum products to enter the subsurface through the stormwater discharge system.

**REC 3:** Emerald Property South of Site: The bulk petroleum and storage facility was reportedly operated since 1958. As discussed in Section 1.2, the facility has had confirmed releases of solvents and PHCs to soil and groundwater.

## **2.2 Phase II Environmental Site Assessment and Additional Subsurface Investigations - EPI**

In 2017, EPI performed soil and groundwater sampling activities at the site to further evaluate the three RECs, including the fifteen AOPCs related to the historic foundry operations. The investigation activities were summarized in a *Phase II Environmental Site Assessment* (Phase II) report dated October 31, 2017, and the *Updated Subsurface Investigation Letter Report*, dated May 3, 2018. Links to electronic copies of the reports are presented in Appendix A of this report.

The investigation activities were primarily related to REC 1, or AOPCs 1 through 15. EPI determined the constituents of potential concern (COPCs) were gasoline, diesel, oil, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), Resource Conservation Recovery Act (RCRA) 8 metals, and PCBs. The investigations identified several areas of impact, however, total delineation was not accomplished. Constituents of concern (COCs) were identified based on concentrations of COPCs exceeding the Method A CULs. Based on the sampling activities, EPI concluded that AOPCs 3, 4, 6, 10, 11, 12, and 15 were in compliance with the Method A CULs. The COCs in the remaining non-compliant AOPCs are listed below:

**AOPC 1 Metal Receiving Area:** Lead, diesel, oil, carcinogenic PAHs (cPAHs), and PCBs

**AOPC 2 Electronic Arc Furnace Area:** Arsenic

**AOPC 5 Southwest Compressor:** Diesel, oil, cPAHs, and PCBs

**AOPC 7 South Compressor:** Oil

**AOPC 8 Maintenance Shop Building:** Oil and cPAHs

**AOPC 9 Welding Station Building:** Arsenic and chromium

**AOPC 13 Foundry Waste Material:** cPAHs

**AOPC 14 North Compressor:** Oil

Although the vertical extent of COCs was not defined at all locations, EPI anticipated the COCs were limited to a depth of 5 feet bsg or less based on the surficial nature of the releases. Selected soil analytical data that reflect the regulatory status of the site are shown on Figure 3 and selected groundwater data are shown on Figure 4. Comprehensive soil sample analytical data are summarized in Tables 1 through 5. Concrete surface wipe sample analytical data are summarized in Table 6. Groundwater sample analytical data are summarized in Tables 7 through 10. The COCs present in soil were attributed to historic site use as a foundry since the 1920's. The impacts to shallow soil were likely the cumulative result of various industrial operations. The PHC impacts were primarily attributed to leaking compressor equipment and drum storage.

During the EPI investigations, hollow stem auger borings were advanced for the collection of groundwater samples. A total of nine groundwater samples were collected from AOPCs 1, 4, 5, 6, 7, 10, and 13. COPCs were not detected or were detected below the Method A CULs in all samples with the exception of cPAHs in sample **SB-9:GW**, located within AOPC 1, the metal receiving area. The cPAH concentration in **SB-9:GW** (0.2134 ppb) was attributed by EPI to high turbidity in the sample. Sample **SB-10:GW** was also located in AOPC 1 and cPAHs were an order of magnitude lower (0.02265 ppb). Based on the exceedance at boring SB-9, EPI subsequently directed the installation of groundwater monitoring well MW-1, approximately 15 feet to the east. Concentrations of cPAHs were significantly lower and below the Method A CUL in groundwater sample **MW-1:water** (0.0453 ppb). Based on the additional sampling, the exceedance in groundwater sample **SB-9:GW** appears to be the result of high turbidity.

Although EPI did not discuss the UST reportedly installed for emergency transformer oil storage, soil samples **APOC1-05** and **SB-9:5** were collected in the vicinity of the tank. Sample **APOC1-05** was collected from near surface soil, which contained PHCs most likely due to leaking equipment. Sample **SB-9:5** was collected from a depth of 5 feet bsg and no constituents were detected above regulatory concentrations. Groundwater sample **SB-9:GW** was collected approximately 10 feet east of the UST location. No oil was detected. As discussed above, regulatory concentrations of cPAHs were detected and EPI attributed the detections to turbidity.

The on-site stormwater compliance (REC 2) was retained for further evaluation since EPI was unable to confirm the configuration of the stormwater conveyance system or a precise discharge location. Groundwater sample **SB-7:GW** was collected within AOPC 10 at the approximate location of the stormwater retention area and no COCs were identified (Figure 3).

The adjacent Emerald site, identified by EPI as REC 3 in the Phase I, was not retained for further evaluation. Based on soil and groundwater sampling completed near the Emerald site, EPI concluded there was no evidence that contamination from the adjacent site has impacted the subject property. Therefore, EPI considered REC 3 resolved.



### 2.3 Excavation Cleanup Strategy - EPI

EPI prepared a proposal to excavate and remove COCs from AOPCs 1, 2, 5, 7, 8, 9, 13, and 14. The anticipated excavation depths ranged from 3 to 5 feet bsg. EPI also proposed the collection of additional soil samples for waste profiling, confirmation sampling, and to document the cleanup.

## 3.0 INTERIM ACTION - 2018 EXCAVATION CLEANUP

The following presents a summary of excavation cleanup activities completed in 2018 as an interim action by Magna Construction Services, Inc. (Magna).

### 3.1 Cleanup Strategy and Areas Excavated

Based on direct input from the property owner at the time, Mr. Dan Swartz, the interim action (excavation cleanup) was limited to AOPCs 1, 5, and 7. The remaining AOPCs were not excavated. The concrete surface at AOPC 8 and AOPC 9 was cleaned and resealed as part of the interim action.

### 3.2 Excavation Cleanup and Concrete Cleaning/Resealing

In October and November 2018, at the direction of Mr. Swartz, Magna performed excavation cleanup activities at AOPCs 1, 5, and 7. Associated Environmental Group, LLC (AEG), of Olympia, Washington, inspected the excavation areas when complete and collected confirmation soil samples. The excavated soil was temporarily stockpiled at the north end of the property, within AOPC 13 pending off-site disposal. The approximate excavation areas are illustrated on Figure 3 and summarized below. The dimensions of the excavation areas, depths, and exact sample locations were not well documented and for the purpose of this report, were determined by MSBA based on a review of photographs and a site plan map provided by AEG. The actual excavation areas were verified by MSBA in 2021 using ground penetrating radar (GPR) and exploratory test pits as discussed in Section 5.1.

**AOPC 1: Metal Receiving Area:** The excavation area was approximately 800 sq. ft. and the estimated depths ranged from 1 to 1.5 feet bsg. MSBA estimates approximately 62 tons of soil were removed from this area (Figure 3).

**AOPC 5: Southwest Compressor:** The excavation area was approximately 1,580 sq. ft. and the estimated depths ranged from 1 to 3 feet bsg. MSBA estimates approximately 232 tons of soil were removed from this area (Figure 3).

**AOPC 7: South Compressor:** The excavation area was approximately 230 sq. ft. and the estimated depth was 1.5 feet bsg. MSBA estimates approximately 24 tons of soil were removed from this area (Figure 3).

In conjunction with the excavation cleanup activities, Magna removed overlying sediment/dirt from the surface of the concrete at areas AOPC 8 (Maintenance Shop Building) and AOPC 9 (Welding Station Building)(Figure 3). The sediment/dirt removed during the concrete cleaning was added to the stockpile for subsequent off-site disposal. After cleaning the surface of the concrete at these locations it was reportedly sealed.

The modified excavation cleanup plans included removal of soil surrounding the north compressor (AOPC 14) at the general location of EPI sample *AOPC14-01*. However, based on field observations at the time, AEG concluded it did not appear that excavation was warranted and collected soil sample *AOPC14-01* to confirm.

### 3.3 Confirmation Soil Sampling and Results

In October 29 and November 14, 2018, AEG collected confirmation soil samples from the bottom of the three excavation cleanup areas, AOPCs 1, 5, and 7. In addition, AEG collected a sample from area AOPC 14 (north compressor). AEG collected a total of fourteen soil samples (twelve confirmation samples and two stockpile samples). The samples were submitted to Pace Analytical, of Mount Juliet Tennessee (Pace) for laboratory analysis. The selected laboratory analyses were based on the COPCs for each AOPC, as determined by EPI during previous investigations. Several of the samples had identical or similar names to the previous EPI samples, however, the sample locations did not directly correlate. Based on the available documentation, MSBA estimated the excavation and confirmation sample locations as accurately as possible. The approximate sample locations as estimated by MSBA and selected analytical results are illustrated on Figure 3.

**AOPC 1 Metal Receiving Area:** Five soil samples were collected from the bottom of the excavation within this area at estimated depths ranging from 1 to 1.5 feet bsg. The samples were labeled *AOPC1-1*, *AOPC1-2*, *AOPC1-3*, *AOPC1-4*, and *AOPC1-5*. The samples were analyzed for gasoline, diesel, oil, VOCs, PAHs, PCBs, and RCRA 8 metals. Sample *AOPC1-2* was analyzed for hexavalent chromium in addition to total chromium. Hexavalent chromium was detected in sample *AOPC1-2* at 19.2 ppm, slightly above the Method A CUL of 19.0 ppm (Table 4). The remaining analytes were below the Method A CULs (Tables 1-5).

**AOPC 5 Southwest Compressor:** Four soil samples were collected from the bottom of the excavation within this area at estimated depths ranging from 2 to 3 feet bsg. The samples were labeled *AOPC5-1*, *AOPC5-2*, *AOPC5-3*, and *AOPC5-4*. The samples were analyzed for diesel, oil, VOCs, and PCBs. Tetrachloroethylene (PCE) was detected in sample *AOPC5-3* at 0.091 ppm, above the Method A CUL of 0.05 ppm (Table 2). Oil was detected in sample *AOPC5-4* at a concentration above the Method A CUL (5,460 ppm compared to the 2,000 ppm CUL)(Table 2). The remaining analytes were below the Method A CULs (Tables 1 and 5).

**AOPC 7 South Compressor:** Two soil samples were collected from the bottom of the excavation within this area at an estimated depth of 1.5 feet bsg. The samples were labeled *AOPC7-1* and *AOPC7-2*. The samples were analyzed for diesel, oil, and PCBs. All analytes were below the Method A CULs (Tables 1 and 5).

**AOPC 14 North Compressor:** The modified plan included removal of soil at AOPC 14. However, AEG and Magna were unable to visibly locate any soil that appeared to require removal based on field observations. AEG collected sample *AOPC14-1* from this location to document the absence of COCs. The sample was analyzed for diesel, oil, and PCBs. All analytes were below the Method A CULs (Tables 1 and 5).

**Stockpile:** Two composite samples were collected from the stockpile for landfill disposal authorization. The samples were labeled *Stockpile-1* and *Stockpile-2*. The samples were analyzed for gasoline, diesel, oil, VOCs, PAHs, PCBs, and RCRA 8 metals. Both samples were analyzed for hexavalent chromium in addition to total chromium. The stockpile sample results are summarized in Tables 1-5. Based on a review of the available documentation provided by Magna, approximately 317.58 tons of soil were disposed at the Wasco County Landfill in The Dalles, Oregon.

### 3.4 AEG Confirmation Sampling Report and Corrections

Following the confirmation sampling activities, AEG prepared a brief letter report summarizing the results. The report was titled *Summary of Selected Confirmational Soil Sampling*, dated December 5, 2018. The report stated that the analytical results indicated no COCs were present at concentrations above the Method A CULs. MSBA reviewed the report in August 2019 on behalf of NSC and determined that three confirmation soil samples, *AOPC1-2*, *AOPC5-3*, and *AOPC5-4*, did have results exceeding the Method A CULs. MSBA discussed this discrepancy with AEG in a phone call and an email. AEG corrected errors in the photo log and sample area map from the report and provided MSBA with revised copies. AEG also provided a lab report missing from the original summary report. AEG confirmed that no additional information was available including field measurements of the excavation areas, depths, and sample locations. A link to an electronic copy of the corrected version of the AEG report is presented in Appendix A. Supplemental soil disposal documentation is also included with the link.

## 4.0 APPLICABLE CLEANUP LEVELS AND ANALYTICAL METHODS

### 4.1 Applicable Cleanup Levels

MTCA Cleanup Regulations under Washington Administrative Code (WAC) 173-340 establish CULs that are protective of human health and safety and the environment. Various protective CULs for Methods A, B, and C have been established under MTCA based on the land use, constituents present, potential exposure pathways, and concentrations. MSBA evaluated the zoning to determine if the site qualifies for the use of Method C CULs for industrial land use. Based on the industrial zoning and the current and historic industrial use of the site and surrounding area, MSBA proposed the use of Method C CULs during phone conversations with the Washington State Department of Ecology (Ecology). However, due to residential use (Lincoln Place Apartments) east of Lincoln Ave, Ecology determined that the use of MTCA C CULs would not meet the requirements as presented in WAC 173-340-745(1)(a). Therefore, the applicable CULs for soil and groundwater at the site are limited to MCTA Method A CULs for unrestricted land uses. The Method A CULs are listed at the bottom of each data table. The Method B CULs were used for subslab vapor data.

MSBA evaluated cPAHs using Toxicity Equivalent Factors (TEFs) as presented in the Ecology *Implementation Memorandum #10*, dated April 20, 2015. The TEFs were used to evaluate the toxicity of a mixture of structurally similar chemicals. The individual concentrations of the cPAHs in the mixture were converted to equivalent concentrations of the reference chemical, benzo(a)pyrene. The equivalent concentrations were then used to determine the total toxicity equivalent concentration (TEQ) of the cPAH mixture. The total TEQ for the cPAH mixture were then compared to the MTCA Method A CUL of 0.1 ppm to determine if the sample was in regulatory compliance. A total TEQ of equal to or less than 0.1 ppm for soil and 0.1 ppb for groundwater were considered acceptable.

### 4.2 Analytical Methods

Soil and groundwater samples collected at the site were analyzed by Pace and Certified Environmental Consulting, LLC, of Vancouver, Washington (asbestos analysis). The analytical methods used during the investigation included the following:

- Gasoline Range Organics - Method NWTPH-Gx
- Diesel and Oil-Range Organics - Method NWTPH-Dx
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) - Method 8260D
- VOCs - Method 8260D
- Ethylene Dibromide (EDB) - Method 8011
- PAHs - Method 8270E SIM

- RCRA 8 Metals Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver - Methods 6010D and 7470A - Total (TCLP as needed)
- PCBs - Method 8082A
- Asbestos - Method 600/R-93/116, Quantitation Using 400 Point Count Procedure

Subslab vapor samples collected at the site were analyzed by Fremont Analytical of Seattle, Washington. The analytical methods used during the investigation included the following:

- Major Gases - Method 3C
- Petroleum Fractionation - Method TO-15
- VOCs - Method TO-15

## 5.0 ADDITIONAL INVESTIGATION AND REMEDIAL ACTIONS

Following the interim action completed in 2018, residual COCs were present in soil at AOPCs 1, 5, 8, 9, 13, and 14. Based on the evaluation of remedial options and disproportionate cost analysis presented in the *Remedial Investigation/Feasibility Study* (RI/FS), dated March 3, 2021, MSBA determined that Remedial Option 1, Targeted Soil Removal and Capping, was the most appropriate for this site. In April 2021, Ecology approved the RI/FS with some minor modifications in email and verbal communication. The following presents a summary of the completed remedial actions and associated sampling activities completed in 2021. The sampling activities were performed in general accordance with the MSBA Field Methods and Procedures, presented in Appendix B.

### 5.1 Geophysical Survey and Underground Utility Mapping

On April 27, 2021, GeoPotential, of Fairview, Oregon, conducted subsurface mapping using GPR and electromagnetics (EM) as directed by MSBA. GPR can identify voids and disturbances in the subsurface that might represent tanks, vaults, or other features indicative of potential environmental concern. EM can identify the presence of buried metal objects such as USTs or similar buried metal components associated with UST systems by detecting minor fluctuations in the magnetic field. The primary objectives of the survey were:

- Evaluate proposed (RI/FS) removal areas for underground utilities
- Verify previous 2018 excavation cleanup dimensions and depths
- Evaluate possible former underground storage tank locations
- Evaluate the layout of the stormwater conveyance system and verify the location of dry wells
- Locate monitoring well MW-1 in AOPC 1

The survey area included planned removal areas, possible former UST locations, and the stormwater conveyance system. The survey identified an approximately 1,800 gallon underground storage tank that was connected to a floor drain in the transformer room. The tank was intended for use as emergency overflow storage of transformer oil. GeoPotential confirmed the locations for the dry wells associated with the stormwater conveyance system (Figure 2). Potential anomalies indicating soil may have been disturbed at greater than previously reported depths were identified at AOPC 1 and AOPC 5. The anomalies were further evaluated by advancing test pits as discussed below in Section 5.2. Monitoring well MW-1 could not be located based on the survey. MSBA anticipates that monitoring well MW-1 may have been inadvertently removed during the previous 2018 excavation cleanup activities, however, no record of its abandonment was identified. A summary of the survey results prepared by GeoPotential is presented in Appendix C.

## 5.2 Exploratory Test Pits

GeoPotential indicated, based on the GPR survey, that anomalies were present at AOPC 1 and AOPC 5 indicating deeper excavations may have occurred at the locations. MSBA directed the advancement of exploratory test pits at the locations. MSBA observed what appeared to be native, undisturbed soil at the approximate reported depths of the 2018 excavation. No staining, debris, or indication that a former UST had been present or historic releases had occurred, were observed at the anomaly locations. Soil was also field screened using a photo-ionization detector (PID) and no indications of PHCs were detected.

Geopotential identified a potential UST in AOPC 1 at the approximate location the owner reported a tank may be present for emergency overflow storage of transformer oil. Overburden soil was removed from the location and the UST was confirmed. The UST measured approximately 5 feet in diameter by 12 feet long and had an approximate capacity of 1,800 gallons. Concrete was present above the north and south ends of the tank. The decommissioning and sampling activities are summarized in Section 5.3.

MSBA observed water ponded in an approximately 5.5 feet diameter metal ring referred to on historic drawings as a “melting pot.” The melting pot is no longer in use, but was reportedly used for melting metal. The bottom of the melting pot was approximately 7 feet bsg and an estimated 1,000 gallons of surface water had accumulated in it. The water was removed for disposal by a vacuum truck operated by Stratus. Disposal documentation is presented in Appendix F. The melting pot was covered with a steel plate to prevent future water infiltration. MSBA recommended that a more permanent cover be welded on in the future. MSBA directed the excavation of a test pit to a depth of approximately 9 feet bsg immediately adjacent to the melting pot. Field screening using a PID and visual observations did not identify any stained soil or PHCs while advancing the test pit. Soil sample **S33-9** was collected from the test pit at a depth of 9 feet bsg and submitted for analysis of COCs, which were not detected.

### 5.3 UST Decommissioning and Sampling

Due to the proximity of the UST to the building and related structural concerns, an in-place decommissioning was completed after receiving feedback from Ecology. Prior to the decommissioning activities, water present in the tank was sampled and submitted for laboratory analysis and disposal authorization. The top of the tank was cut off and a vacuum truck operated by Stratus removed approximately 160 gallons of water. The UST was cleaned using a pressure washer. Tank and rinsate water disposal documentation is presented in Appendix F. After the tank was cleaned, it was filled with concrete. Gravel was placed from the top of the tank to near the surface. The tank had moderate corrosion, however, no holes were present.

Three test pits were excavated along the west side of the tank to collect decommissioning site assessment soil samples. One soil sample was collected adjacent to each end of the tank and one sample was collected from the middle. Soil samples could not be collected on the east side of the tank or due to the storm sewer system and accessibility. Soil removed from the test pits was observed and field screened using a PID. No indications of a release were noted. Soil samples **S20-9**, **S21-9**, and **S22-9** were collected at a depth of 9 feet bsg. The soil samples were submitted to Pace for laboratory analysis of diesel and oil, which were not detected.

### 5.4 Targeted Soil Removal and Confirmation Soil Sampling

On April 27, 2021, MSBA initiated targeted soil removal activities at AOPCs 1, 5, 8, 9, 13, and 14. MSBA also further evaluated the previous excavation and sampling at AOPC 7. Excavated soil was stockpiled on-site pending completion and off-site disposal.

The cleanup objective was to remove soil containing concentrations of the identified COCs to levels below the target Method A CULs (Section 4.1). The majority of the cleanup consisted of removing the upper 1 to 3 feet of soil from the surface. Deeper removal activities were necessary in AOPC 5 to a maximum depth of 6 feet bsg. Portions of the soil removal/sampling within AOPC 1, AOPC 8, and AOPC 9 required the use of a vacuum truck or air knife to access the soil due to utilities, buildings, low clearance, and/or concrete slabs. The remaining soil removal was completed using standard excavation equipment. The final removal areas and depths are illustrated on Figures 5, 6 and 7. Existing and additional laboratory data, as well as field screening using a PID and visual observations were utilized to identify any potential areas that required additional removal. Removal activities continued until observations, field screening, and confirmatory analyses verified that the target Method A CULs had been met. Photographs of the removal areas are presented in Appendix D.

During and following the removal activities, MSBA collected confirmation soil samples for laboratory analysis. The approximate sample locations are illustrated on Figure 5. The selected laboratory analyses were based on the COCs identified at each AOPC, as determined during previous investigations. The soil sample analytical results are presented in Tables 1 through 5. Copies of the laboratory analytical reports are presented in Appendix E. The following presents a summary of the removal and sampling activities at each AOPC.

**AOPC 1 Metal Receiving Area** (Photos 1-9): MSBA directed the removal of soil from the proposed (RI/FS) removal areas to depths ranging from 1 to 2.5 feet bsg (Figure 6). The removal areas were expanded based on field observations and laboratory analytical results to include areas of stained soil near the south end of the former 2018 excavation. MSBA estimates that 110 tons of soil were removed from AOPC 1. A small portion of one of the removal areas overlapped into what EPI had designated as AOPCs 2 and 3, however, these areas are considered AOPC 1 for the purpose of this report.

MSBA evaluated the former EPI soil sample location **AOPC1-01**, which was plotted on EPI site maps as beneath the baghouse in AOPC 1 (Figures 6). The approximate sample location and area beneath the baghouse was covered with competent concrete with no evidence of a recent core or saw cut. It appeared the sample may have been collected from sediment that had accumulated on the concrete pad or the location had been misplotted by EPI. The sediment was removed and the concrete pad was cleaned at the direction of MSBA and observed to be in good condition. MSBA directed the removal of soil surrounding the concrete pad to the north and east based on Method A CUL exceedances. Soil in this area was removed to an approximate depth of 1 foot bsg.

MSBA collected 30 confirmation soil samples (including field duplicates) from AOPC 1. The samples were primarily collected at depths ranging from surface grade to 2.5 feet bsg (Figure 6). Additional soil samples were collected at a depth of 9 feet bsg from test pits intended to evaluate subsurface soil beneath the UST and melting pot area (Sections 5.2 and 5.3). Several of the removal areas were expanded based on field observations and analytical results. The final confirmation soil sample results confirmed that all regulatory concentrations of COCs within the cleanup areas had been successfully removed.

**AOPC 5 Southwest Compressor** (Photos 10-14): MSBA directed the removal of soil from the proposed (RI/FS) cleanup areas to depths ranging from 1 to 6 feet bsg (Figure 7). Several of the removal areas were expanded based on CUL exceedances. MSBA estimates that 153 tons of soil were removed from AOPC 5.

MSBA collected 32 confirmation soil samples (including a field duplicate) from AOPC 5. The samples were collected at depths ranging from surface grade to 6 feet bsg (Figure 7). Based on the analytical results, additional cleanup was performed. The final confirmation soil sample results verified that all regulatory concentrations of COCs within the cleanup areas had been successfully removed. MSBA also collected samples of the previous sand used to backfill the excavation cleanup in 2018 for analysis. These analytical results confirmed that the sand used to backfill the 2018 excavation cleanup did not have any regulatory exceedances.



While removing soil near the western property boundary, MSBA encountered a gray material that resembled bentonite clay. The material appeared to extend to the west beyond the completed removal area. The material was analyzed for PAHs, RCRA 8 metals, and asbestos. PAHs and RCRA 8 metals were not present at concentrations exceeding the Method A CULs. The laboratory initially identified asbestos as present, however, when additional sample volume was submitted for follow-up analysis to quantify the results, it was not detected. NSC believes that the material may be bentonite clay that was historically used in the casting process. The material was temporarily stockpiled.

**AOPC 7 South Compressor** (Photo 15): Excavation cleanup activities were performed at AOPC 7 in 2018. Previous EPI sample **AOPC7-01** was plotted outside the excavation area and potentially misplotted. MSBA inspected this location and observed competent concrete with no evidence of a saw cut or sampling activities. MSBA anticipates that sample location **AOPC7-01** was either misplotted by EPI or was collected from sediment that had accumulated on the concrete. The previous excavation cleanup completed in 2018 appears to have successfully removed all COCs from AOPC 7.

**AOPC 8 Maintenance Shop Building** (Photo 16): MSBA directed the removal of soil from the proposed (RI/FS) cleanup area to an approximate depth of 1 foot bsg (Figure 5). The removal area was expanded slightly based on Method A CUL exceedances. MSBA estimates that approximately 11 tons of soil were removed from AOPC 8.

MSBA collected 5 confirmation soil samples from the removal area in AOPC 8. The samples were collected at depths ranging from surface grade to 1 foot bsg (Figure 5). The removal area was expanded based on the initial analytical results and additional confirmation soil sample **S50-0** was collected from the perimeter. Field duplicate sample **S50-0 DUP** was also collected. The adjusted TEF total cPAHs results for sample **S50-0** were 0.0598 ppm, well below the 0.1 ppm Method A CUL. The total cPAH results for duplicate sample **S50-0 DUP** were 0.1007 ppm. Although the duplicate sample results were greater than the Method A CUL by 0.0007 ppm, since the average of the two samples is well below the Method A CUL, this condition will not be considered a regulatory exceedance. The confirmation soil sample results verified that all regulatory concentrations of COCs had been successfully removed from the cleanup area.

MSBA inspected the former EPI soil sample location **HA-1:1.0** and it appeared that the sample was collected beneath the covered concrete slab north of the building (Figure 5). The concrete was re-cut and MSBA used a hand auger was used to evaluate the depth of COCs in soil at the location. The hand auger boring was advanced to a depth of 2.5 bsg and samples **S25-1.5**, **S25-2**, and **S25-2.5** were collected (Figure 5). Hand auger refusal occurred at 2.5 feet due to rocky conditions and regulatory concentrations of oil were present in these samples, including sample **S25-2.5** at 2.5 feet. Due to the oil concentration at 2.5 feet, a vacuum truck was used to assist in combination with the hand auger to reach a maximum depth of 4 feet bsg at this location. A drill rig could not be used due to the roof above the boring location. Samples **S25-3** and **S25-4** were collected using a hand auger. Soil removal activities were not completed in this area due to the proximity of the building and footings

for the roof of the covered area. The area containing regulatory concentrations of oil appears to be covered with concrete. Eliminating potential risks associated with the oil at this location by maintaining the concrete cap is proposed/discussed in Section 5.8.

**AOPC 9 Welding Station Building** (Photos 17-18): MSBA evaluated the former EPI soil sample locations **AOPC9-02** and **AOPC9-03** based on Method A CUL exceedances and it appears they were collected immediately beneath degraded and cracked concrete (Figure 5). Saw cuts, approximately 2 feet by 2 feet, were made at each location. MSBA directed the removal of approximately 0.5 ton of material from these former EPI sample locations and surrounding soil using a vacuum truck.

MSBA collected soil samples **S23-1.0** and **S24-1.0** at 1 foot bsg for laboratory analysis to define the vertical extent. Based on the sample results, the regulatory extent of COCs was 1 foot bsg at both locations. Following the vacuum removal activities, MSBA also collected soil samples **S67-0** and **S68-0** to evaluate if COCs were remaining beneath the concrete floor. COCs were not detected at regulatory concentrations with the exception of arsenic, which was detected in sidewall sample **S67-0** at a concentration of 42.3 ppm, exceeding the 20 ppm Method A CUL. Arsenic was detected in field duplicate sample **S67-0 DUP** at a significantly lower concentration of 11.1 ppm, indicating the soil is nonhomogenous. Since the concentration in sample **S67-0** is over double the Method A CUL and the average of the two samples also exceed, the result is considered a CUL exceedance. Based on the confirmation soil sampling, it appears that elevated levels of arsenic are present beneath the concrete at the **S67-0** location, but the remaining area is in compliance. Eliminating potential risks associated with the arsenic at this location by maintaining the concrete cap is proposed/discussed in Section 5.8.

**AOPC 13 Foundry Waste Material** (Photo 19): MSBA directed the removal of soil from the proposed (RI/FS) cleanup areas to a depth of 1 foot bsg (Figure 5). The planned removal area was consistent with the actual area. MSBA estimates that approximately 5 tons of soil were removed from AOPC 13.

MSBA collected two confirmation soil samples from AOPC 13. Soil sample **S11-1** was collected at 1 foot bsg from the bottom of the removal area and sample **S12-0** was collected from the surrounding surface. The confirmation soil sample results confirmed that all regulatory concentrations of COCs had been successfully removed.

**AOPC 14 North Compressor** (Photo 20): MSBA directed the removal of soil from the proposed (RI/FS) cleanup area to an approximate depth of 1 foot bsg (Figure 5). The planned removal area was expanded slightly based on field observations. MSBA estimates that approximately 4 tons of soil were removed from AOPC 14.

MSBA collected two soil samples from AOPC 14. Soil sample **S16-1** was collected at 1 foot bsg from the bottom of the removal area and sample **S17-0** was collected from the surrounding surface (Figure 5). The confirmation soil sample results verified that all regulatory concentrations of COCs had been successfully removed.

## 5.5 2021 Soil Sample Quality Control Summary

Pace Analytical provided trip blank samples that were placed in each cooler and transported to/from the field and back to the laboratory. The trip blank samples were submitted for laboratory analysis of VOCs. With the exception of acetone, a common laboratory contaminant, VOCs were not detected in the samples analyzed. The trip blank results are summarized in Table 7 and copies of the laboratory analytical reports are presented in Appendix E. Based on these results, MSBA determined that the soil sample container/results were not altered or adversely affected during transport.

Equipment blank (rinsate blank) samples **EB-1** through **EB-9** were collected by pouring distilled water over the sampling equipment and containing the water for analysis, prior to and during the sampling activities. The equipment blanks samples were submitted for laboratory analysis of the same constituents as the characterization samples during each sampling event. Acetone was the only constituent detected in the equipment blank samples. The remaining analytes were not detected in the samples (Tables 7 through 10). Since acetone was not detected in any of the soil samples collected during the sampling events, it appears that the sample results can be relied on for the intended purpose of this investigation.

Field duplicates were collected throughout the sampling activities to evaluate the precision in the sampling and analytical procedures. The relative percent differences for some of the duplicate samples were relatively high. MSBA attributes the differences to nonhomogeneous soil conditions and matrix interference. Although the field duplicate results varied, they did not typically vary to a degree that would alter the regulatory status of the site. Therefore, the sample results can be relied on for the intended purpose of this investigation.

MSBA performed a quality control review of the laboratory analytical reports. Several analytes and/or analyses were qualified by the laboratory noting that the results are estimated due to: 1) matrix interference, 2) surrogate recoveries outside control limits, 3) compounds detected in laboratory blanks, and/or 4) matrix spike and/or matrix spike duplicate results outside the acceptable limits. The individual qualifiers are presented in the laboratory reports included in Appendix E. MSBA reviewed each of the individual qualifiers and determined that the corresponding sample results were not likely affected to a degree that would substantively change or alter the reported results or current regulatory status of the site. Based on this review, MSBA concludes that these soil sample data can be relied on for the intended purpose of this investigation.

## 5.6 Soil Disposal and Stockpiling

Soil removed during the cleanup was stockpiled on-site near the northeastern property boundary within AOPC-13 for subsequent disposal. Small stockpiles of overburden soil were also located within the AOPC-5 removal area. The stockpiled soil was lined with 6 millimeter (mm) plastic

sheeting to prevent potential vertical migration of constituents into underlying soil or asphalt. The stockpiles were bermed and covered with plastic sheeting to prevent rain and/or surface water incursion. Approximately 1 to 2 inches of underlying soil was also disposed off-site to ensure that no COCs were present. The stockpiles were located within an area that is enclosed within security fencing and not accessible to the public.

The excavated soil was disposed at the Wasco County Landfill in The Dalles, Oregon. A total of 284.14 tons of soil were disposed at the landfill. Disposal documentation is presented in Appendix F.

## 5.7 Backfill and Site Restoration

Following cleanup and confirmation soil sampling activities, the site was backfilled with approximately 313 tons of clean, commercially obtained, imported 1-1/4 inch minus gravel backfill. The backfill material was compacted using a plate compactor and graded to match the approximate previous surface conditions.

## 5.8 Post Cleanup Regulatory Status

Following the soil removal activities, residual COCs are present beneath concrete in AOPCs 8 and 9 as summarized below.

**AOPC 8 Maintenance Shop Building:** Soil containing regulatory concentrations of oil is present beneath the covered concrete pad at the north end of the maintenance shop building, within AOPC 8 (Figure 8). Oil was detected at a maximum concentration of 8,500 ppm (*HA-1:1.0*). Combined diesel and oil range concentrations exceed the Method A CUL, however, the diesel detections are likely due to overlap from oil range hydrocarbons. The residual oil at this location has an estimated area of 80 sq. ft. and a maximum depth of 4 feet bsg (Figure 8).

**AOPC 9 Welding Station Building:** Soil containing a regulatory concentration of arsenic is present beneath the concrete floor of the welding station building, within AOPC 9 (Figure 8) at a maximum remaining concentration of 42.3 ppm (*S67-0*). The residual arsenic has an estimated area of 110 sq. ft. and a maximum depth of 1 foot bsg (Figure 8).

The concrete will be maintained to act as an engineering control intended to limit access to COCs in the underlying soil. If future construction or development activities render the soil beneath the concrete accessible, it will be excavated and disposed. The requirements associated with future removal activities will be stipulated in the Environmental Covenant as a condition of the no further action determination.

## 6.0 MONITORING WELL MW-2 INSTALLATION AND SAMPLING

### 6.1 AOPC 5 Hollow Stem Auger Boring Location

In June 2021, MSBA notified Ecology that former monitoring well MW-1 could not be located and sampled as planned. Since the previous 2018 MW-1 sample results did not exceed the Method A CULs, Ecology requested a groundwater sample near the southeast corner of AOPC 5.

### 6.2 Soil Boring and Soil Sampling

On June 14, 2021, boring MW-2 was advanced to a depth of 63 feet bsg using a hollow-stem auger drill rig operated by Stratus. A GeoProbe attachment was used in combination to collect soil samples. Since the boring was installed within the soil removal area, the first 3.5 feet of material was the gravel used to backfill. The remaining soil beyond 3.5 feet primarily consisted of sand and silty sand. Groundwater was first encountered in the boring at a depth of 52 feet bsg. Shallow soil sample *MW2-5* and groundwater interface sample *MW2-52* were collected from the boring for laboratory analysis of selected COCs. COCs were not detected in either sample at concentrations exceeding the Method A CULs.

Soil cuttings and decontamination/purge water from the sampling activities were stored in 55-gallon drums and transported by Stratus for disposal at Patriot Environmental Services. Disposal documentation is presented in Appendix F.

### 6.3 Monitoring Well Construction

On June 14, 2021, monitoring well MW-2 was constructed using 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing. A fifteen foot section of 0.010 inch pre-pack slotted casing was placed at the bottom of boring (63 to 48 feet bsg). Solid PVC well casing was installed from the top of the screened interval (48 feet bsg) to near the ground surface.

The annulus adjacent to the pre-pack screen was backfilled with clean, imported 12/20 silica filter sand from the bottom of the boring to approximately 47 feet bsg, 1 foot above the top of the screen. The solid casing was sealed with hydrated bentonite chips from 47 to 3 foot bsg. The bentonite seal was covered with concrete and a steel, bolt down, traffic-rated well vault flush with the surface. The top of the well casing was secured with a water-tight, locking cap inside the well vault. MSBA documented the well construction on a Soil Boring Log presented in Appendix G. A copy of the Resource Protection Well Report filed by the driller is also presented in Appendix G.

Following installation, monitoring well MW-2 was developed to removed fines and reduce turbidity by purging with a submersible pump. Approximately 120 gallons were purged during well development. The purge water was temporarily stored in 55-gallon drums pending disposal.

#### 6.4 Monitoring Well MW-2 Groundwater Sampling

On August 27, 2021, MSBA purged and sampled monitoring well MW-2. The static depth to water below the top of casing (BTOC) measured 53.26 feet. The previous static depth to water measured in June 2021 was slightly higher at 51.27 feet BTOC. MSBA purged approximately three well volumes and collected groundwater sample **MW-2** and field duplicate sample **MW-2 DUP**. A copy of the Groundwater Purge and Sample Data sheet is presented in Appendix H.

The groundwater samples were submitted to Pace for analysis of previous COPCs at AOPC 5. The analytes were either not detected or present at concentrations below the Method A CULs. The results are summarized in Tables 7 through 10 and a copy of the laboratory analytical report is presented in Appendix I.

#### 6.5 MW-2 Groundwater Sample Quality Control Summary

Pace Analytical provided a trip blank sample that was placed in the cooler and transported to/from the field and back to the laboratory and analyzed for VOCs, which were not detected. The trip blank results are summarized in Table 7 and a copy of the laboratory analytical report is presented in Appendix H. Based on these results, MSBA determined that the groundwater sample containers/results were not altered or adversely affected during transport.

Equipment blank (rinsate blank) sample **EB-10** was collected by pumping distilled water through the submersible pump within a clean 5-gallon bucket and sampling the discharge. The equipment blank sample was submitted for laboratory analysis of the same constituents as the groundwater sample. Acetone was detected at a relatively low concentration in the equipment blank sample. The remaining analytes were not detected (Tables 7 through 10). Acetone was also detected in the MW-2 and field duplicate samples collected during the sampling event. MSBA does not use acetone for decontamination and the source or cause is unknown, however, it is a common laboratory contaminant. Since the condition did not result in regulatory concentrations of COCs in the MW-2 sample, the results can be relied on for the intended purpose of this investigation.

A field duplicate was collected to evaluate the precision in the sampling and analytical procedures. The duplicate results were relatively consistent with the original sample, therefore, the sample results can be relied on for the intended purpose of this investigation.

MSBA performed a quality control review of the laboratory analytical report. Several analytes and/or analyses were qualified by the laboratory noting that the results are estimated due to: 1) matrix interference, 2) surrogate recoveries outside control limits, and/or 3) matrix spike and/or matrix spike duplicate results outside the acceptable limits. The individual qualifiers are presented in the laboratory report included in Appendix I. MSBA reviewed each of the individual qualifiers and determined that the corresponding sample results were not likely affected to a degree that would substantively change or alter the reported results or current regulatory status of the site. Based on this review, MSBA concludes that these groundwater sample data can be relied on for the intended purpose of this investigation.

## **7.0 SUBSLAB VAPOR INVESTIGATION - AUGUST 2021**

Following the soil removal activities, residual diesel concentrations were present in soil at concentrations ranging from 4.63 to 1,600 ppm. Cleanup regulation requires that the Vapor Intrusion exposure pathway be evaluated if concentrations of diesel in soil are greater than 250 ppm, which is below the Method A CUL of 2,000 ppm. The following section presents a summary of subsurface vapor sampling activities completed to further evaluate the potential VI exposure pathway.

### **7.1 Subslab Vapor Point Locations**

The locations where residual diesel concentrations exceed the 250 ppm threshold are shown on Figure 9. MSBA and Ecology agreed on one subsurface vapor sample near the location with the highest residual diesel concentrations, AOPC 8 and one location near sample location *S45-0* at AOPC 5.

### **7.2 Floor Survey**

Prior to installing the subsurface vapor point, MSBA inspected the floor in the vicinity of the proposed sample location for significant cracks, holes, or other irregularities that could cause short circuiting, and/or otherwise interfere with the vapor sampling. Several moderate cracks were observed in the floors of both buildings. The proposed sample locations were modified slightly to avoid being within 2 or 3 feet of the cracks.

### 7.3 Subslab Vapor Point Installation

On August 27, 2021, MSBA installed subslab vapor points SV-1 and SV-2. A hammer drill was used to create a 1-inch diameter hole that penetrated the slab and approximately 1 to 2 inches of subslab material, creating a small cavity. A stainless steel sampling screen attached to Teflon tubing was inserted into the small cavity immediately beneath the bottom of the slab. Filter sand was placed adjacent to the screen from the bottom of the cavity to just above the bottom of the slab. A 0.5-inch layer of combined powdered and granular bentonite was placed above the sand but not hydrated. A slurry of Portland cement was used to seal the remainder of the hole to the surface. The cement slurry was allowed sufficient time to hydrate the bentonite and set up prior to sampling.

### 7.4 Subslab Vapor Sampling

On August 27, 2021, subslab vapor samples **SV-1** and **SV-2** were collected. Prior to purging and sampling, each laboratory certified sample collection manifold was vacuum tested to verify the tightness of all the fittings. Prior to sampling, approximately three volumes of air within the sampling point, sand pack, tubing, and manifold were purged using a dedicated syringe. The flow rate was 200 milliliters per minute (ml/min) or less during purging and sampling, as limited by the intake regulator, or critical orifice assembly on the manifold as calibrated by the laboratory. The purge volume calculation parameters are documented on a Soil Vapor Purge Volume Calculation Worksheet presented in Appendix J. Leak testing was performed during purging and sampling using a shroud enclosing the vapor point, Summa canister, manifold, and tubing filled with 2-propanol vapor. An approximate 2-propanol concentration of 20,000 to 60,000 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) was maintained inside the shroud during the purging and sampling activities. The concentration of 2-propanol was field monitored using a PID. Samples **SV-1 Shroud** and **SV-2 Shroud** were collected from inside the shroud and submitted for laboratory analysis of 2-propanol to determine the actual concentrations.

Following the purging activities, samples **SV-1** and **SV-2** were collected using a laboratory certified Summa canister. MSBA continued sampling until the vacuum in the Summa canister decreased from the initial vacuum reading of approximately 30 inches of mercury to approximately 5 inches of mercury. MSBA documented the final canister vacuum and sample time on Soil Vapor Purge and Sample Data sheets presented in Appendix J. Following completion of the sample collection activities, the vapor points were over-drilled and patched with cement.

Subslab vapor samples **SV-1** and **SV-2** were submitted to Fremont Analytical for laboratory analysis of APH hydrocarbon fractions aliphatics EC5-8, aliphatics EC9-12, and aromatics EC9-10, and BTEX, naphthalene, and major gases, as requested by Ecology. In addition, samples **SV-1**, **SV-2**, and leak detection shroud samples **SV-1 Shroud** and **SV-2 Shroud** were analyzed for 2-propanol using EPA method TO-15. The laboratory analytical results are summarized in Table 11 and illustrated on Figure 9. Copies of the laboratory analytical reports are presented in Appendix K.



There were no Method B CUL exceedances in the welding station building sample **SV-2**, north of AOPC 5. The total petroleum fractions and naphthalene results exceeded the generic MTCA Method B CULs in sample **SV-1**, within the maintenance building at AOPC 8. The petroleum fraction results for **SV-1** were flagged by the laboratory as biased high (143% surrogate recovery) and therefore, are likely below the Method B CUL. MSBA calculated the site specific sub-slab vapor non-carcinogenic Method B CUL for total petroleum fractions in accordance with the Ecology Implementation Memorandum No. 18 (dated January 10, 2018). The total petroleum fraction results for **SV-1** are below the site specific sub-slab vapor Method B CUL, as shown in Table 12.

MSBA further evaluated the naphthalene exceedance with modeling using the EPA BioVapor program. The default values were used for most inputs. The BioVapor inputs and outputs are shown in Appendix K. Based on the modeling results, the naphthalene results appear to be protective of human health and safety. The ceilings in the maintenance building where **SV-1** was collected are relatively high and the door is typically open or partially open for more mixing with ambient outdoor air. In general, the building is very drafty, constructed with a single layer of corrugated steel siding and no insulation.

## 7.5 Subslab Vapor Sampling Leak Test Results

Leak test compound 2-propanol was detected in leak test shroud samples **SV-1 Shroud** and **SV-2 Shroud** at concentrations of 25,000 and 57,000  $\mu\text{g}/\text{m}^3$ , respectively. The leak test compound was detected in subslab vapor samples **SV-1** and **SV-2** at relatively low concentrations of 187 and 83.7  $\mu\text{g}/\text{m}^3$ , respectively. The estimated ambient air leak percentage was calculated using the following formula. The leak percentage is defined as the percent of ambient air that may have diluted the sample due to potential leaks in the sample train, fittings, manifold, and/or vapor point surface seal.

$$\text{Leak Percentage} = \frac{\text{2-Propanol Concentration in Vapor Sample}}{\text{2-Propanol Concentration in Shroud Sample}} \times 100$$

In general accordance with the Ecology guidance, a calculated leak of more than 5 percent ambient air indicates the sample results are likely compromised and re-sampling may be warranted. The calculated leak percentages for **SV-1** and **SV-2** were 0.75 and 0.15 percent, respectively. Since the leak test results are satisfactory, MSBA concludes that no significant contribution of ambient air occurred and the data can be relied upon.

## 7.6 Subslab Vapor Sample Quality Control Summary

MSBA performed a quality control review of the laboratory analytical reports. The spike recovery results were outside the accepted recovery limits for the petroleum fractionation results with respect to sample **SV-1**. As discussed in Section 7.4, this may have caused biased high results in the sample.

Since the potentially biased high petroleum fractionation results for SV-1 are below the site specific Method B CUL, the condition is considered acceptable. The laboratory also noted that internal standards were outside the acceptance criteria for VOCs. The laboratory indicates that matrix effect is a potential cause of the condition. The individual qualifiers are presented in the laboratory reports included in Appendix K. MSBA reviewed each of the individual qualifiers and determined that the corresponding sample results were not likely affected to a degree that would substantively change or alter the reported results or current regulatory status of the site. Based on this review, MSBA concludes that these subslab vapor sample data can be relied on for the intended purpose of this investigation.

## **8.0 CONCEPTUAL SITE MODEL INFORMATION**

The following presents a summary of site information assembled to prepare a site-specific conceptual site model (CSM).

### **8.1 Surface Water Assessment**

MSBA performed a surface water assessment by reviewing the United States Geologic Survey (USGS) 7.5-minute series, Vancouver, Washington Topographic Quadrangle Map (Figure 1a) and the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory. The closest body of surface water is the Columbia River, the nearest point being approximately 1,500 feet southwest of the site (Figure 1a). The USFWS National Wetland Inventory does not list any wetlands within a mile of the site, with the exception of the Columbia River, a riverine wetland.

### **8.2 Beneficial Groundwater Use Evaluation**

The following presents a summary of beneficial water uses in the vicinity of the site. The evaluation included a review of well logs in the area as well as municipal water sources.

#### **8.2.1 Water Resources Program Database Review**

MSBA completed a review of well logs listed with the Ecology Water Resources Program (WRP) database to identify any potential drinking or irrigation wells within a one-half mile radius of the site. The review did not include monitoring wells or geotechnical holes. The search results listed one well log potentially within the search radius (Well Report ID 237775). A printout of the search results and copy of the well log are included in Appendix L. The well log represents three water

wells installed in 1947, 1948, and 1957 for the Columbia River Paper Mill. An address for the wells is not listed, however, they were likely installed at the historic paper mill property last operated by Boise Cascade, located along the Columbia River just west of the Interstate 5 bridge. This area is approximately 1,750 feet south of the site at its nearest point. The mill structures were removed and the area was recently developed to include a waterfront park, offices, retail stores and restaurants, hotels, and condominiums. MSBA reached out to the developer to confirm that the water wells are no longer in use, however, did not receive a response. The area is supplied with municipal water and MSBA assumes the wells are not in use or were decommissioned. However, based on the distance from the site, and the on-site groundwater sample results, the historic water wells, even if present, do not represent a concern with respect to the site.

### **8.2.2 City of Vancouver Municipal Water Supply**

MSBA reviewed the City of Vancouver *2021 Water Quality Report* (the most recent available report) and spoke with Mr. Tyler Clary, Water Engineering Program Manager for the City of Vancouver on January 7, 2021, to evaluate the source of municipal water service supplied to the site and surrounding properties. Municipal water is supplied by a network of approximately 40 water wells, which pump water from three aquifers: the Orchards, Troutdale, and Sand-and-Gravel aquifers. The nearest water supply well is approximately 1.5 miles north (upgradient) of the site and there are no downgradient water wells. MSBA also reviewed the Vancouver Water Stations and Wellhead Protection Areas map and determined the site is at least 1 mile outside of any water well protection buffer or special wellhead protection areas. The site is within the critical aquifer recharge area, which includes the entire Vancouver city limit. A copy of the water stations and well protection areas map is included in Appendix L. Based on the distances and locations of the municipal water wells with respect to the groundwater flow direction, it appears there are no municipal wells of concern with respect to the site.

## **8.3 Land Use Zoning**

The zoning for the site, as well as properties to the south and west is Industrial, consistent with the current land uses. Properties to the east (across Lincoln Ave) and north (across Mill Plain Blvd) of the site are zoned Commercial and Mixed Use, also consistent with the current land uses. A copy of the City of Vancouver zoning map for this area is included in Appendix L. On December 4, 2020, MSBA contacted Sandy Wozny, Associate Planner with the City of Vancouver to confirm the zoning at and near the site and verified that there are no proposals or pending changes to the land use and zoning for properties in this area.

## 9.0 CONCEPTUAL SITE MODEL AND EXPOSURE PATHWAY EVALUATION

A CSM is prepared to evaluate the three primary elements of a site assessment that include sources, receptors, and pathways. Together, these three elements could potentially cause a risk to human health and safety. If any one of these three elements are absent, incomplete, or not applicable, there is no potential risk to human health and safety. A general explanation of the three primary elements of a CSM is presented below:

- 1) **Sources** - represent the constituents and the media (soil, groundwater, and air) in which the constituents may be present. The constituents are independently evaluated as COPCs within each media they are present.
- 2) **Receptors** - include the representative segments of the human population (residents, occupational workers, construction workers, and excavation workers) that occupy or work in the vicinity of the site based on zoning, current and permitted land uses, and potential likely future uses of the property.
- 3) **Pathways** - represent the potential mechanisms of transport and routes of exposure (i.e. inhalation, ingestion, and dermal contact) that may provide a means of contact between the sources and the receptors.

The three primary elements of a CSM are discussed in greater detail in the following sections.

### 9.1 SOURCES - Constituents/Media and COC Evaluation

As discussed in Section 2.2, the majority of the constituents detected at the site are the result of various industrial operations, leaking compressor equipment, and drum storage. Industrial operations often result in multiple irregular point sources originating at or very near the surface. Therefore, the depth of COCs was limited to approximately 6 feet bsg. Following the soil removal activities, residual COCs are located beneath concrete and at a maximum depth of 4 feet bsg.

The remaining COPC concentrations were evaluated with respect to the applicable CULs, based on the following criteria, to determine whether individual COPCs should be further evaluated for risk as COCs:

- Individual COPCs will not be further evaluated as COCs if they are: 1) detected at a concentration below the respective CUL; 2) not detected and the laboratory reporting limit (RL), which was raised due to dilution required for analysis, is below the respective CULs; or, 3) not detected and the commonly achievable RL, which was not raised by sample dilution required for analysis, exceeds the respective CULs.
- Individual COPCs will be further evaluated as COCs if they are: 1) detected at a concentration exceeding the respective CUL; or 2) not detected and the RL, which was raised by sample dilution required for analysis, exceeds the CUL.

#### 9.1.1 COC Evaluation - Soil

COPCs in residual soil were assessed for further evaluation as COCs by comparing the maximum detected concentrations (MDCs) to the Method A CULs based on the criteria presented above (Section 9.1). Soil data representing remaining soil were used for this evaluation. Soil data is summarized on Tables 1 through 5 and remaining soil results exceeding the Method A CULs are illustrated on Figure 8. The following constituents in soil were retained for further evaluation as COCs:

- Diesel
- Oil
- Arsenic

#### 9.1.2 COC Evaluation - Groundwater

COPCs in the groundwater were assessed for further evaluation as COCs by comparing the MDCs to the screening levels based on the criteria presented above (Section 9.1). All groundwater data collected at the site were used for this evaluation. Groundwater data is summarized on Tables 7 through 10 and selected results are illustrated on Figure 4. As summarized in Section 2.2, COPCs were not detected at concentrations exceeding the Method A CULs in any samples with the exception of cPAHs in **SB-9:GW**, which was located within AOPC 1, the metal receiving area. EPI attributed the cPAH concentration in **SB-9:GW** (0.2134 ppb) to high turbidity in the sample. Concentrations of cPAHs were significantly lower and below the Method A CUL in the subsequent monitoring well sample **MW-1:water** (0.0453 ppb). Based on these results, it appears that groundwater containing concentrations exceeding the Method A CULs were the result of high turbidity in sample **SB-9:GW**. Therefore, no COPCs were retained for further evaluation as COCs in groundwater.

### 9.1.3 COC Evaluation - Subslab Vapor

COPCs in the subslab vapor were assessed for further evaluation as COCs by comparing the MDCs to the Method B CULs based on the criteria presented above (Section 9.1). The August 2021 subslab vapor data were used for this evaluation. Subslab vapor data is summarized on Table 11 and selected results are illustrated on Figure 9. The following constituents in subslab vapor were retained for further evaluation as COCs:

- TPH Fractions
- Naphthalene

## 9.2 RECEPTORS - Potential Receptor Evaluation

The potential receptors (residents, occupational workers, construction workers, and excavation workers) were evaluated by assessing the current and future land use and zoning (Section 8.3) and the potential future land use. The site has reportedly been operated as a foundry since the 1920s and based on the surrounding area it will most likely remain industrial in the foreseeable future. Although apartments are located east to the site across Lincoln Ave, the NSC facility is enclosed within security fencing and the nearby receptors will not be in contact with residual COCs on-site. Based on the above site conditions, potential receptors are identified as industrial workers, construction workers, and excavation workers. However, since unrestricted CULs are being utilized, the remedial action activities are also protective of residents. Ecological receptors were also retained for further evaluation.

## 9.3 PATHWAYS - Potential Exposure Pathway Evaluation and Risk Determination

The primary potential exposure pathways at the site consist of the following:

**Dermal Contact and Ingestion:** Dermal contact and/or ingestion of COCs in soil.

**Vapor Intrusion:** Volatilization of COCs in soil into air and subsequent inhalation.

**Ecological Risk:** Dermal contact and ingestion of COCs in soil by ecological receptors.

The potential exposure pathways were selected and evaluated with respect to the COCs and the receptors to determine the potential for risk to. An exposure pathway is considered “complete” when site information indicates that a receptor is likely to contact a COC. A potential exposure pathway is considered “incomplete” when site data and information indicates that a potential receptor will not contact a COC. If a potential exposure pathway is considered complete, it is selected and further evaluated for potential risk.

MSBA determined that based on the absence of COCs in groundwater and its depth, the Leaching to Groundwater and Ingestion and Inhalation of Groundwater exposure pathways are incomplete and do not require further evaluation. In addition, since the nearest body of surface water is approximately 1,500 feet away, raised railroad beds/tracks creating a berm are located between the two, and stormwater is contained on-site, the Soil Runoff to Surface Water exposure pathway is also incomplete. The following presents an evaluation of the remaining exposure pathways.

### 9.3.1 Dermal Contact and Ingestion

Concentrations of COCs in soil at two locations exceeding Method A CULs could potentially cause an unacceptable risk to on-site receptors if contacted or ingested. Following the soil removal activities, residual soil containing COCs is limited to relatively small areas at AOPC 8 and AOPC 9. Both areas are capped with concrete that will be maintained to prevent incidental contact. Therefore, based on current site data and concrete cap, there is no elevated risk to human health and safety with respect to the Dermal Contact and Ingestion exposure pathway.

### 9.3.2 Vapor Intrusion

Elevated concentrations of COCs in soil could potentially cause an unacceptable risk to on-site receptors if the constituents volatilize into air and are subsequently inhaled. Following the soil removal activities, subslab vapor samples *SV-1* and *SV-2* were collected to further evaluate this exposure pathway, as discussed in Section 7.0.

There were no Method B CUL exceedances in the welding station building sample *SV-2*, north of AOPC 5. The total petroleum fractions and naphthalene results exceeded the generic Method B CULs in sample *SV-1*, within the maintenance building at AOPC 8. MSBA calculated the site specific sub-slab vapor Method B CUL for total petroleum fractions and the *SV-1* results were below the CUL (Table 12). MSBA further evaluated the naphthalene exceedance using the EPA BioVapor model. Based on the modeling output, the naphthalene results are acceptable. Therefore, based on current site data and modeling results, there is no elevated risk to human health and safety with respect to the Vapor Intrusion exposure pathway.

### 9.3.3 Ecological Risk

MTCA WAC 173-340-7490 establishes terrestrial ecological evaluation procedures. Following the soil removal activities, all concentrations of COCs exceeding the commercial screening values provided in MTCA Table 749-2 (Appendix L) were either removed or are capped with concrete. Therefore, the site meets the requirements for exclusion from an ecological evaluation in accordance with WAC 173-340-7491 (1)(b) and no further assessment is needed.

## 10.0 SUMMARY AND RECOMMENDATIONS

Extensive soil, groundwater, and subslab vapor sampling have been completed at the site. Soil removal activities were performed in 2018 and 2021 to remove a combined total of 601.72 tons of soil containing COCs. The regulatory extent of COCs has been adequately defined. Residual COCs are present at AOPCs 8 and 9 in areas capped with concrete. The concrete caps will be maintained to act as an engineering control intended to limit access to COCs in the underlying soil. An Environmental Covenant will be recorded as an institutional control to ensure the concrete caps remain effective. No ecological concerns were identified at the site. Therefore, with the implementation of institutional controls governing the concrete caps, the site appears to be in compliance with the applicable Ecology regulations and MSBA recommends a no further action determination.



## 11.0 REMARKS AND SIGNATURES

The information/conclusions/recommendations contained in this report were arrived at in accordance with currently accepted professional geological and environmental practices at this time and location. No warranties are expressed or implied. This report was prepared solely for NSC. MSBA is not responsible for the independent conclusions or actions of others derived from the information presented herein.

Information and opinions presented in this report are based on the collection and review of data from limited portions of the site subsurface. MSBA is not responsible for conditions that may exist in portions of the site that were not investigated, for conditions that were not reported or properly presented to MSBA, and for future activities or investigations that may alter the current condition or understanding of the site.

Prepared By:

**Martin S. Burck Associates, Inc.**

\_\_\_\_\_/\_\_\_\_\_  
Josh Owen  
Project Manager  
Date

Reviewed by:

\_\_\_\_\_/\_\_\_\_\_  
Martin S. Burck, LG/RG  
Licensed/Registered Geologist; OR, WA, CA  
Date

## Figures

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- Figure 1a Site Location Map
- Figure 1b Area Layout Map
- Figure 2 Site Map
- Figure 3 Previous Soil Data Map
- Figure 4 Groundwater Data Map
- Figure 5 Excavation and Soil Sample Location Map
- Figure 6 AOPC 1 Sample Location Map
- Figure 7 AOPC 5 Sample Location Map
- Figure 8 Remaining COCs in Soil Data Map
- Figure 9 Vapor Intrusion Assessment Map

DRAFT

R. 1 E.

T. 2 N.



Adapted from: VANCOUVER and PORTLAND QUADRANGLES  
7.5 Minute Series, Contour Interval 10 feet  
USGS Topographic Maps, 2020  
North American Vertical Datum of 1988

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0 0.25 0.5  
Approximate Scale (miles)



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**FIGURE 1a**

**SITE LOCATION MAP**

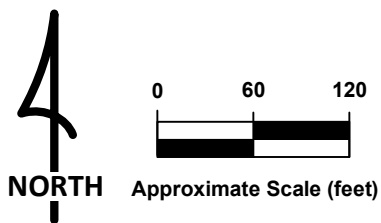
North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660





Adapted from: Google Earth Image (5/10/21)

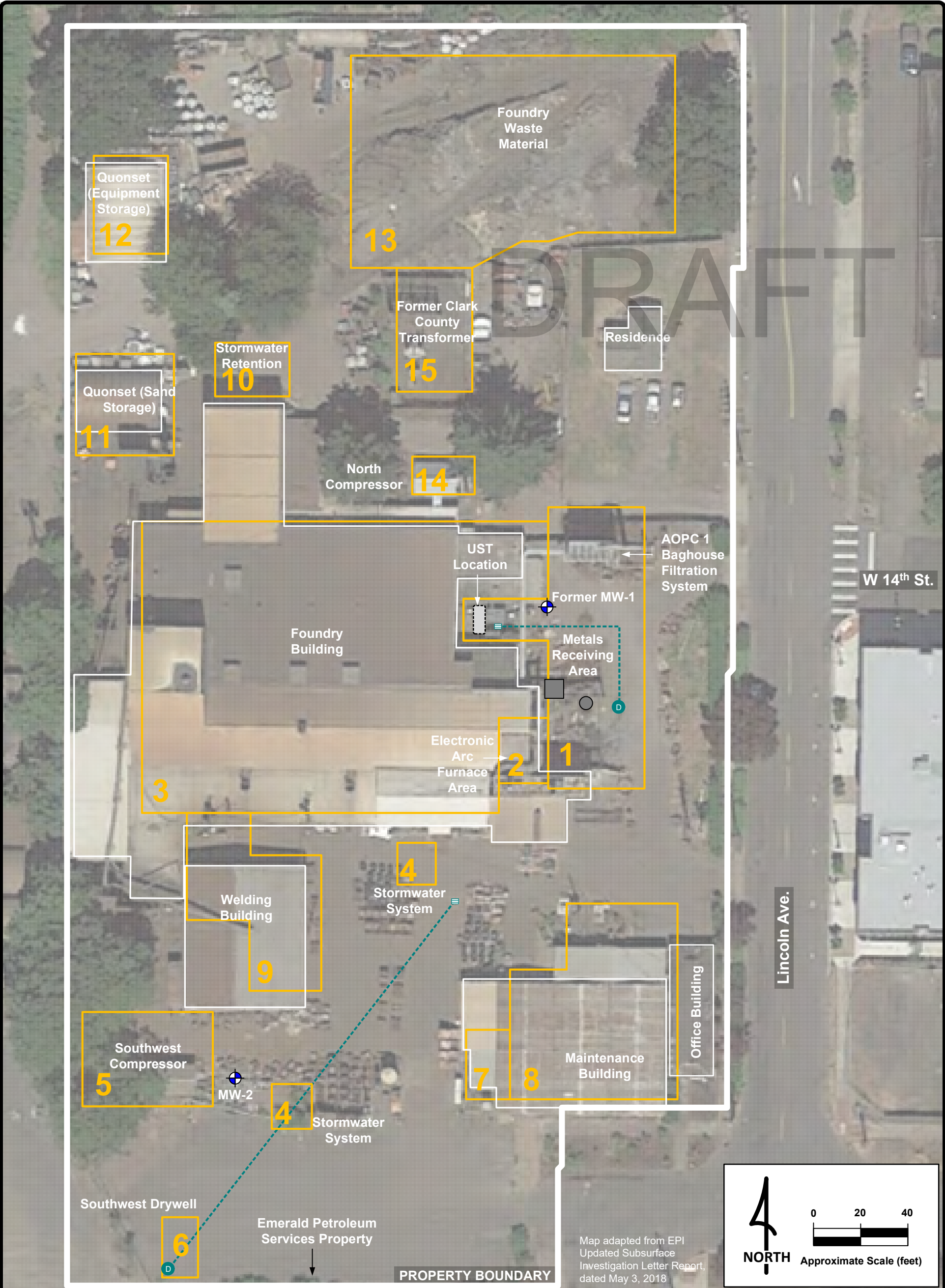
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**FIGURE 1b**

**AREA LAYOUT MAP**  
North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660



**LEGEND**

- Area of Potential Concern (AOPC) and ID
- Monitoring Well Location and ID
- Stormwater Utility Location  
Catch Basin  
Dry Well

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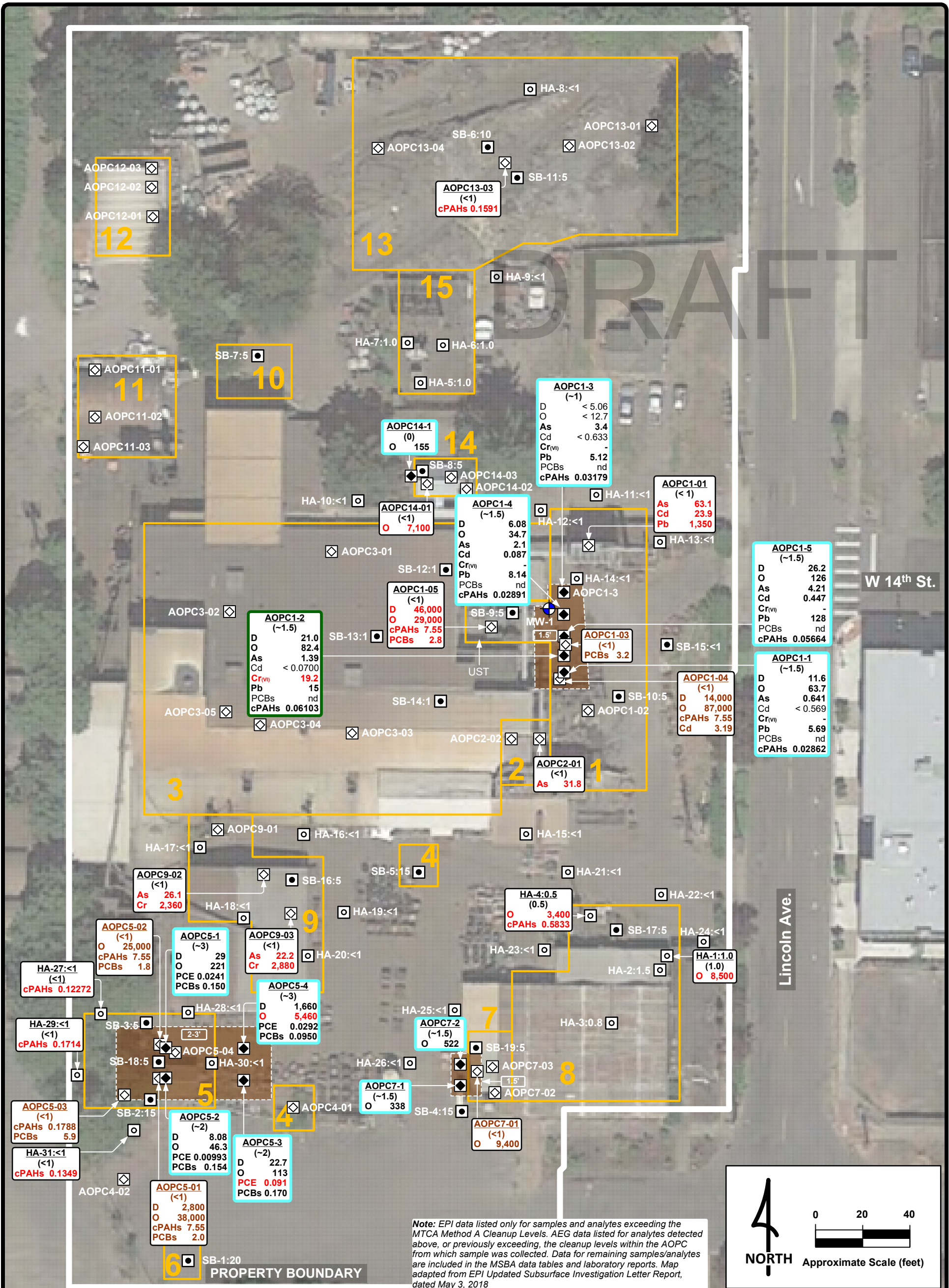
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**FIGURE 2**

**SITE MAP**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660





**LEGEND**

<b>PCE 0.091</b>	Tetrachloroethylene (8260C) (ppm)
<b>As 1.39</b>	Arsenic (6020A) (ppm)
<b>Cd &lt; 0.0700</b>	Cadmium (6020A) (ppm)
<b>Cr(vi) 19.2</b>	Hexavalent Chromium (3060A/7196A) (ppm)
<b>Cr 2,880</b>	Total Chromium (6020A) (ppm)
<b>Pb 15</b>	Lead (6020A) (ppm)
<b>Blue Outline</b>	Sample Collected by AEG Following Excavation Cleanup
<b>Bold Value</b>	Analyte(s) Detected Above Method Detection Limit
<b>Red Value</b>	Concentration Exceeds MTCA Method A Cleanup Level
( < )	Not Detected Above Method Detection Limit, as listed
( nd )	Not Detected
( - )	Not Analyzed

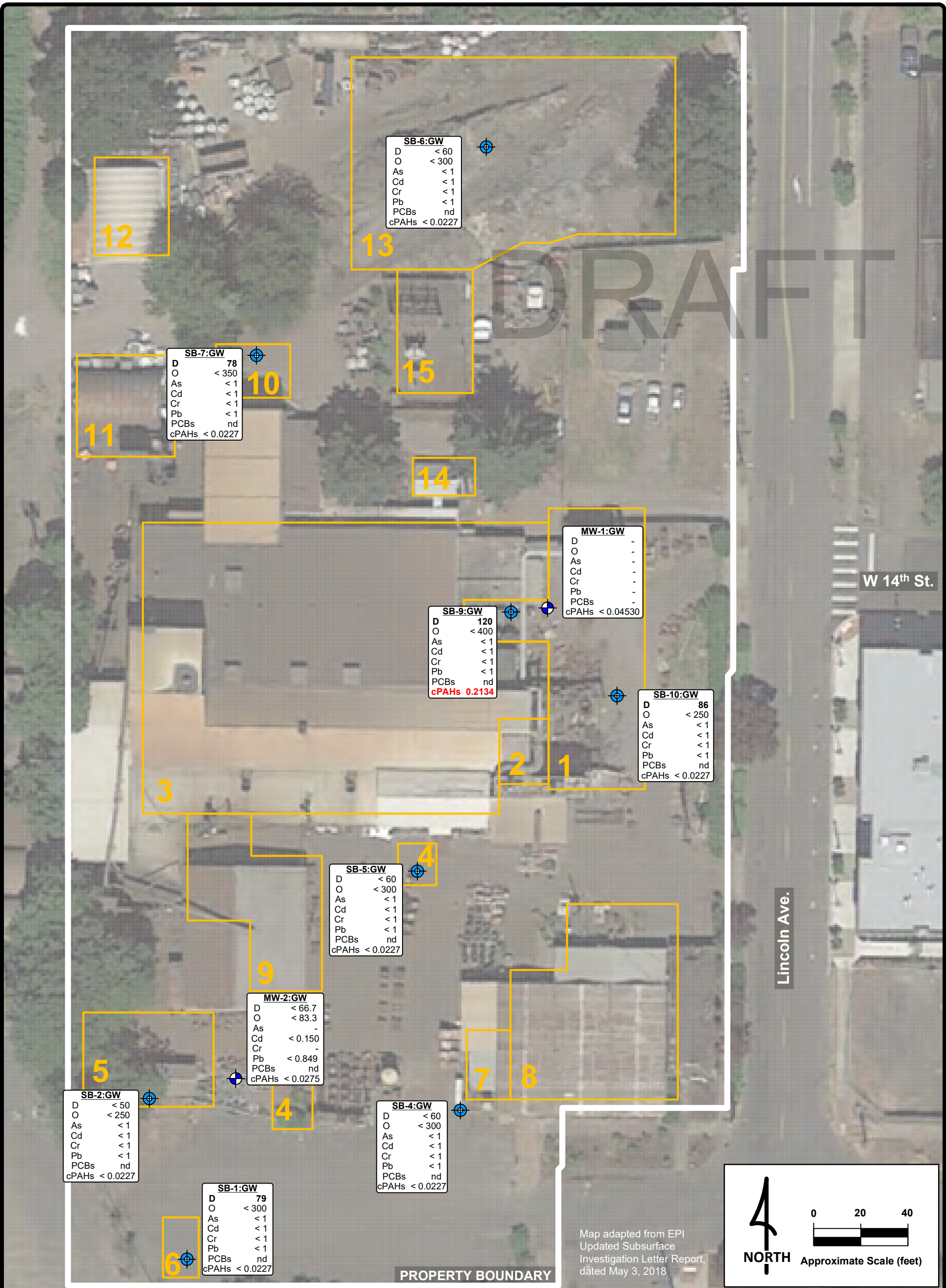
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**FIGURE 3**

**PREVIOUS SOIL DATA MAP**

North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660

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**LEGEND**

**14** Area of Potential Concern and ID

Monitoring Well Location

Temporary Well Location

Groundwater Sample ID	Groundwater Sample ID
D	Diesel (NWTPH-Dx) (ppb)
O	Oil (NWTPH-Dx) (ppb)
As	Arsenic (6020A) (ppb)
Cd	Cadmium (6020A) (ppb)
Cr	Total Chromium (6020A) (ppb)
Pb	Lead (6020A) (ppb)
PCBs	Polychlorinated Biphenyls (8082A) (ppb)
cPAHs	TEF Adjusted Carcinogenic PAHs (8270D) (ppb)

<b>Bold Value</b>	Indicates Analyte(s) Detected Above Method Detection Limit
<b>Red Value</b>	Concentration Exceeds MTCA Method A Cleanup Level
( < )	Not Detected Above Method Reporting Limit
-	Not Analyzed

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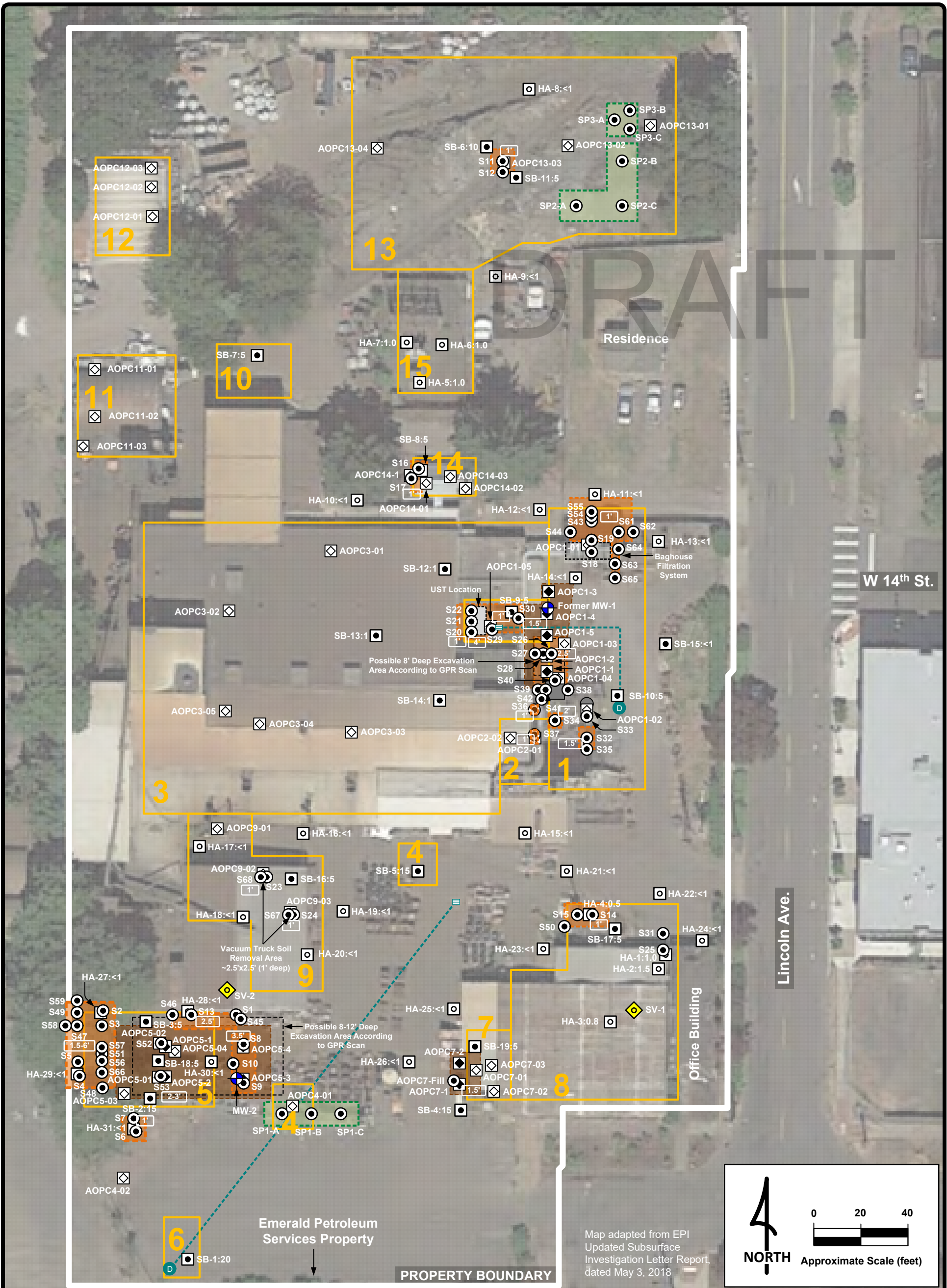
**FIGURE 4**

**GROUNDWATER DATA MAP**

North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660

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#### LEGEND

- S16 MSBA Soil Sample Location and ID (2021)
- ◆ SV-1 MSBA Subslab Vapor Sample Location and ID (2021)
- SB-2 EPI Hollow Stem Auguer Soil Boring Sample Location and ID (2017-2018)
- HA-31 EPI Hand Auguer Soil Boring Sample Location and ID (2017-2018)
- ◇ AOPC4-02 EPI Near Surface Soil Sample Location and ID (2017)
- ◆ AOPC5-01 AEG/Magna Soil Sample Location and ID (2018)
- MW-2 Monitoring Well Location and ID

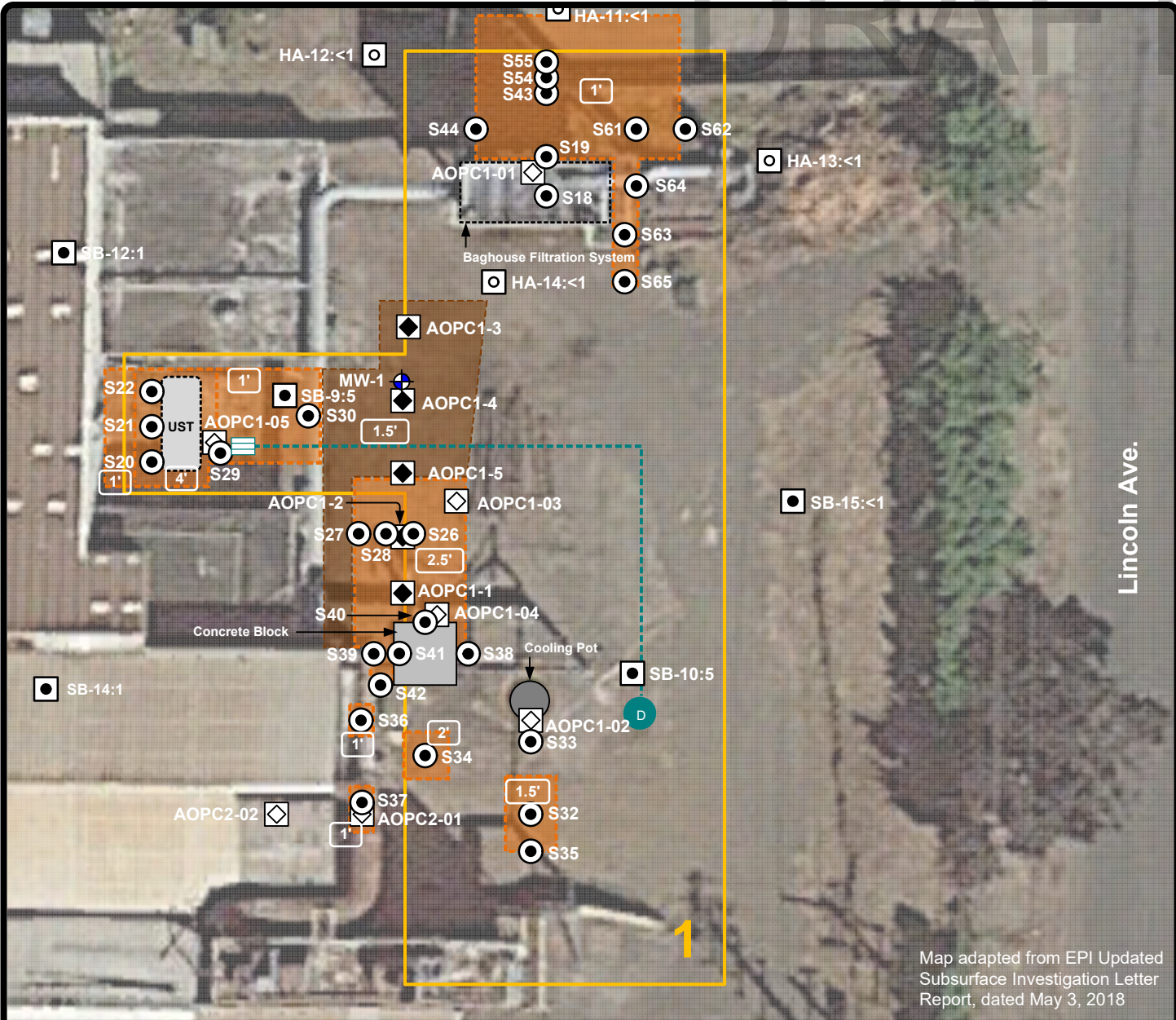
- Area of Potential Concern (AOPC) and ID
- AEG/Magna Soil Removal Area and Depth
- MSBA Soil Removal Area
- MSBA Soil Stockpile Area and Depth
- Stormwater Utility Location
- Catch Basin
- Dry Well

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**FIGURE 5**  
**EXCAVATION AND SOIL**  
**SAMPLE LOCATION MAP**  
North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660

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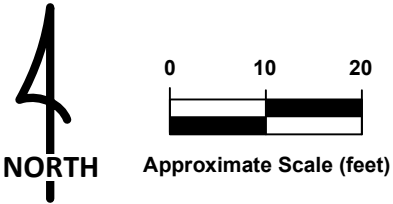


Map adapted from EPI Updated Subsurface Investigation Letter Report, dated May 3, 2018

LEGEND

- S16 MSBA Soil Sample Location and ID (2021)
- SB-2 EPI Hollow Stem Auger Soil Boring Sample Location and ID (2017-2018)
- HA-31 EPI Hand Auger Soil Boring Sample Location and ID (2017-2018)
- AOPC4-02 EPI Near Surface Soil Sample Location and ID (2017)
- AOPC5-01 AEG/Magna Soil Sample Location and ID (2018)
- MW-1 Monitoring Well Location and ID
- 1 Area of Potential Concern (AOPC) and ID
- 1' AEG/Magna Soil Removal Area and Depth Below Surface Grade
- 2.5' MSBA Soil Removal Area and Depth Below Surface Grade
- D Stormwater Utility Location
- Catch Basin
- Dry Well

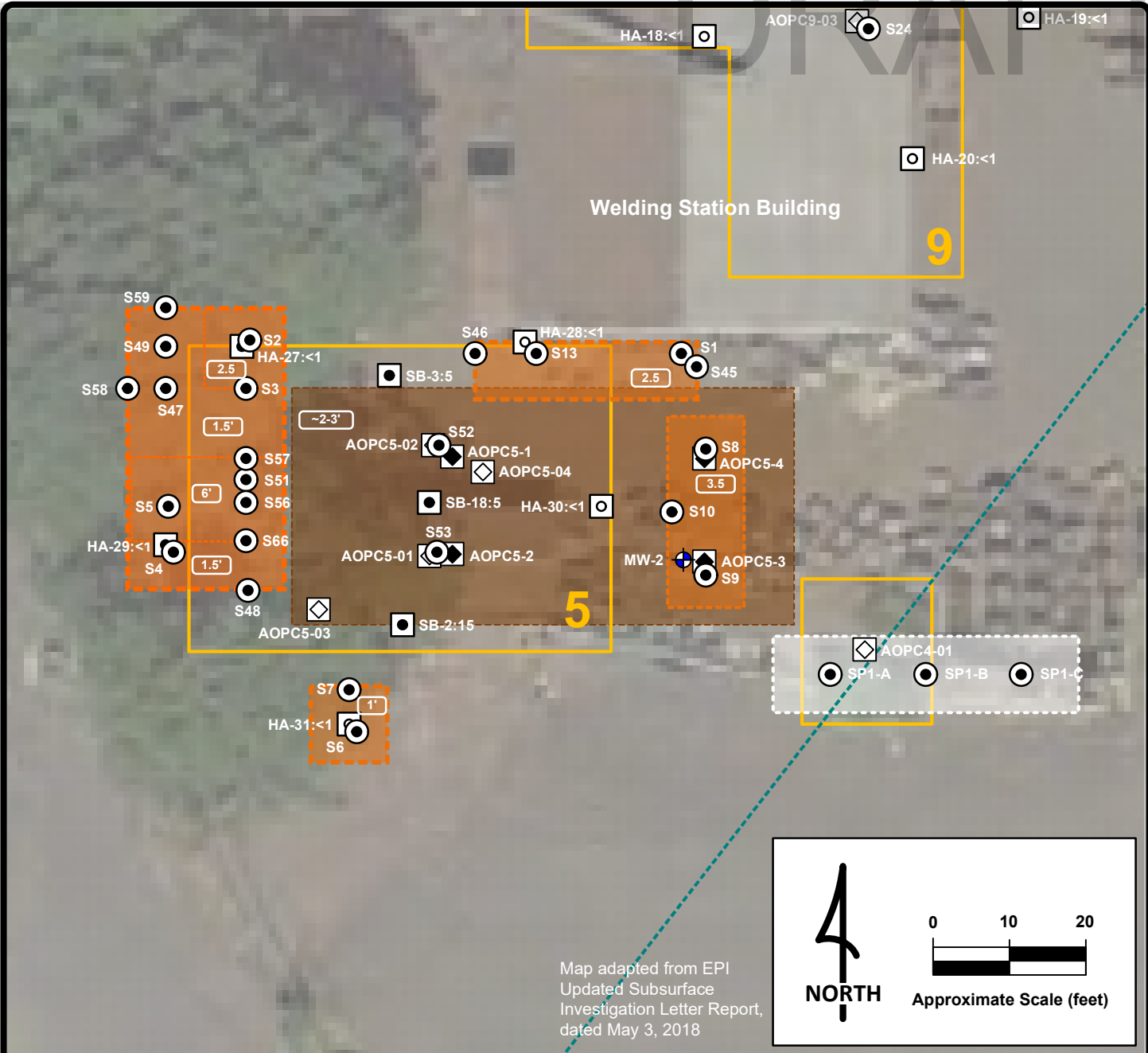
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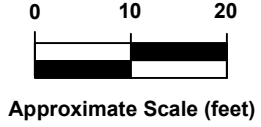
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FIGURE 6

**AOPC 1 SAMPLE  
LOCATION MAP**  
North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660



Map adapted from EPI  
Updated Subsurface  
Investigation Letter Report,  
dated May 3, 2018



### LEGEND

- S16** MSBA Soil Sample Location and ID (2021)
- SB-2** EPI Hollow Stem Auger Soil Boring Sample Location and ID (2017-2018)
- HA-31** EPI Hand Auger Soil Boring Sample Location and ID (2017-2018)
- AOPC4-02** EPI Near Surface Soil Sample Location and ID (2017)
- AOPC5-01** AEG/Magna Soil Sample Location and ID (2018)
- MW-1** Monitoring Well Location and ID
- 14** Area of Potential Concern (APOC) and ID
- AEG/Magna Soil Removal Area
- MSBA Soil Removal Area
- Stormwater Utility Location

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### FIGURE 7

**AOPC 5 SAMPLE  
LOCATION MAP**  
North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660







## Tables

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Table 1	Soil Sample Analytical Data - Analytical Summary
Table 2	Soil Sample Analytical Data - PHCs and VOCs
Table 3	Soil Sample Analytical Data - SVOCs
Table 4	Soil Sample Analytical Data - Metals
Table 5	Soil Sample Analytical Data - PCBs
Table 6	Wipe Sample Analytical Data - PCBs
Table 7	Water Sample Analytical Data - PHCs and VOCs
Table 8	Water Sample Analytical Data - SVOCs
Table 9	Water Sample Analytical Data - Metals
Table 10	Water Sample Analytical Data - PCBs
Table 11	Subslab Vapor Sample Analytical Data
Table 12	Subslab Vapor Total TPH Non-Carcinogenic Cleanup Levels

# TABLE 1

## SOIL SAMPLE ANALYTICAL DATA - ANALYTICAL SUMMARY

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	Metals <sup>b</sup> (ppm) <sup>c</sup>			PHCs <sup>d</sup> (ppm)				VOCs <sup>g</sup>	cPAHs <sup>h</sup>	PCBs <sup>i</sup>
			Cadmium	Lead	Chromium	HCID	Gasoline <sup>e</sup>	Diesel <sup>f</sup>	Oil <sup>f</sup>			
AOPC 1 - Metal Receiving Area Soil Samples												
AOPC1-01 <sup>j</sup>	4/5/17	< 1	23.9 <sup>k, l</sup>	1,350	1,360	N/A <sup>m</sup>	N/A	N/A	N/A	N/A	N/A	N/A
AOPC1-02	4/5/17	< 1	< 1.00 <sup>n</sup>	2.06	54.9	N/A	< 2.00	< 50.0	290	< CUL <sup>o</sup>	< CUL	< CUL
AOPC1-03	4/5/17	< 1	< 1.00	25.1	43.3	N/A	< 2.00	200	< 250	< CUL	< CUL	Exceeds <sup>p</sup>
AOPC1-04	4/5/17	< 1	3.19	57.8	169	N/A	N/A	14,000	87,000	N/A	< CUL	< CUL
AOPC1-05	4/5/17	< 1	1.96	50.4	36.1	N/A	N/A	46,000	29,000	N/A	Exceeds	Exceeds
SB-9:5	6/15/17	5	< 1.00	19.7	11.4	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
SB-10:5	6/15/17	5	< 1.00	5.96	38.0	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
SB-15:<1	4/3/18	< 1	< 1.00	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
MW-1:10	4/4/18	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
HA-11:<1	4/4/18	< 1	< 1.00	57.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-12:<1	4/4/18	< 1	< 1.00	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-13:<1	4/4/18	< 1	< 1.00	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-14:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL
AOPC1-1	10/29/18	~ 1.5 <sup>q</sup>	< 0.569	5.69	13.5	N/A	1.27	11.6	63.7	< CUL	< CUL	< CUL
AOPC1-2	10/29/18	~ 1.5	< 0.0700	15.0	56.4	N/A	1.30	21.0	82.4	< CUL	< CUL	< CUL
AOPC1-3	11/14/18	~ 1	< 0.633	5.12	17.2	N/A	< 3.16	< 5.06	< 12.7	< CUL	< CUL	< CUL
AOPC1-4	11/14/18	~ 1.5	0.087	8.14	20.2	N/A	< 2.97	6.08	34.7	< CUL	< CUL	< CUL
AOPC1-5	11/14/18	~ 1.5	0.447	128	60.4	N/A	< 2.93	26.2	126	< CUL	< CUL	< CUL
S18-0	4/29/21	0	< 1.19	82.7	N/A	D, O	N/A	39.0	247	N/A	N/A	N/A
S19-0	4/29/21	0	4.58	366	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S19-1	5/26/21	1	1.04	163	27.5	N/A	N/A	26.9	124	N/A	N/A	N/A
S20-9 Dup	4/29/21	9	N/A	N/A	N/A	N/A	N/A	< 4.80	< 12.0	N/A	N/A	N/A
S20-9	4/29/21	9	N/A	N/A	N/A	N/A	N/A	< 4.89	< 12.2	N/A	N/A	N/A
S21-9	4/29/21	9	N/A	N/A	N/A	N/A	N/A	< 4.79	< 12.0	N/A	N/A	N/A
S22-9	4/29/21	9	N/A	N/A	N/A	N/A	N/A	< 4.91	< 12.3	N/A	N/A	N/A
S26-2.5	4/29/21	2.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S27-2.5	4/29/21	2.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S29-1	4/30/21	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL
S29-1 Dup	4/30/21	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL
S30-0.5	4/30/21	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL
S32-1.5	4/30/21	1.5	N/A	N/A	N/A	N/A	N/A	< 4.81	< 12.0	N/A	N/A	N/A
S33-9	4/30/21	9	N/A	N/A	N/A	N/A	N/A	< 4.40	< 11.0	< CUL	N/A	< CUL
S34-2	4/30/21	2	N/A	N/A	N/A	N/A	N/A	4.63	15.4	N/A	N/A	N/A
S35-0.5	4/30/21	0.5	N/A	N/A	N/A	N/A	N/A	22.8	119	N/A	N/A	N/A
S36-1	4/30/21	1	N/A	N/A	N/A	N/A	N/A	< 44.0	271	N/A	N/A	N/A
S37-1	4/30/21	1	N/A	N/A	N/A	N/A	N/A	< 5.04	< 12.6	N/A	N/A	N/A
S38-1.5	4/30/21	1.5	< 1.18	N/A	N/A	N/A	N/A	288	1,580	< CUL	< CUL	< CUL
S39-1.5	4/30/21	1.5	1.33	N/A	N/A	N/A	N/A	68.6	175	N/A	N/A	N/A
S39-2.5	5/26/21	2.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S40-1.5	5/26/21	1.5	0.827	N/A	N/A	N/A	N/A	538 <sup>r</sup>	1,950	N/A	< CUL	N/A

TABLE 1 (continued)



**TABLE 1 (continued)**  
**SOIL SAMPLE ANALYTICAL SUMMARY**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	Metals <sup>b</sup> (ppm) <sup>c</sup>			PHCs <sup>d</sup> (ppm)				VOCs <sup>g</sup>	cPAHs <sup>h</sup>	PCBs <sup>i</sup>
			Cadmium	Lead	Chromium	HCID	Gasoline <sup>e</sup>	Diesel <sup>f</sup>	Oil <sup>f</sup>			
AOPC 1 - Metal Receiving Area Soil Samples (cont.)												
S40-2.5	6/7/21	2.5	N/A	N/A	N/A	N/A	N/A	85.5	286	N/A	N/A	N/A
S41-2.5	5/26/21	2.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S42-0	5/26/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S43-0	5/26/21	0	3.03	389	84.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S44-0	5/26/21	0	0.560	126	16.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S54-0	6/7/21	0	1.21	253	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S55-0	6/7/21	0	1.20	261	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S61-0	6/7/21	0	1.21	324	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S62-0	6/7/21	0	0.901	102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S63-0	6/7/21	0	6.69	176	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S64-0	6/7/21	0	1.40	133	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S65-0	6/8/21	0	0.456	51.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AOPC 2 - EAF Area Soil Samples												
AOPC2-01	4/5/17	< 1	1.08	165	379	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AOPC2-02	4/5/17	< 1	< 1.00	2.91	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-15:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AOPC 3 - Foundry Building - Sands Soil Samples												
AOPC3-01	4/5/17	< 1	< 1.00	4.53	4.37	N/A	N/A	81.0	< 250	N/A	N/A	N/A
	4/3/18	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
	4/3/18	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
AOPC3-02	4/5/17	< 1	< 1.00	4.15	8.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AOPC3-03	4/5/17	< 1	< 1.00	3.08	352	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
	4/3/18	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
AOPC3-04	4/5/17	< 1	< 5.00	N/A	9.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AOPC3-05	4/5/17	< 1	1.38	25.7	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SB:12-1	4/3/18	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
SB:13-1	4/3/18	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
SB:14-1	4/3/18	1	< 1.00	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
AOPC 4 - Stormwater Drain - Main Yard Soil Samples												
AOPC4-01	4/5/17	< 1	< 1.00	6.54	52.0	N/A	< 2.00	120 <sup>s</sup>	890	< CUL	< CUL	< CUL
AOPC4-02	4/5/17	< 1	< 1.00	20.9	76.2	N/A	< 2.00	87.0 <sup>s</sup>	980	< CUL	< CUL	< CUL
SB-5:15	6/13/17	15	< 1.00	2.42	2.89	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
AOPC 5 - Southwest Compressor Soil Samples												
AOPC5-01	4/5/17	< 1	N/A	N/A	N/A	N/A	N/A	2,800 <sup>s</sup>	38,000	N/A	< CUL	Exceeds
AOPC5-02	4/5/17	< 1	N/A	N/A	N/A	N/A	N/A	1,800 <sup>s</sup>	25,000	N/A	< CUL	Exceeds
AOPC5-03	4/5/17	< 1	N/A	N/A	N/A	N/A	N/A	300 <sup>s</sup>	2,000	N/A	Exceeds	Exceeds
SB-2:15	6/12/17	15	< 1.00	2.61	4.27	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
SB-3:5	6/13/17	5	< 1.00	31.3	11.3	N/A	N/A	< 50.0	< 250	N/A	< CUL	< CUL
SB-1:20	6/12/17	20	< 1.00	9.07	8.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SB-18:5	4/3/18	5	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	< CUL	N/A
HA-27:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	Exceeds	< CUL
HA-28:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	< CUL
HA-29:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	150 <sup>s</sup>	1,900	N/A	Exceeds	< CUL
HA-30:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	< CUL

TABLE 1 (continued)

**TABLE 1 (continued)**  
**SOIL SAMPLE ANALYTICAL SUMMARY**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	Metals <sup>b</sup> (ppm) <sup>c</sup>			PHCs <sup>d</sup> (ppm)				VOCs <sup>g</sup>	cPAHs <sup>h</sup>	PCBs <sup>i</sup>
			Cadmium	Lead	Chromium	HCID	Gasoline <sup>e</sup>	Diesel <sup>f</sup>	Oil <sup>f</sup>			
AOPC 5 - Southwest Compressor Soil Samples (cont.)												
HA-31:<1	4/3/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	Exceeds	N/A
AOPC5-1	10/29/18	~ 3	N/A	N/A	N/A	N/A	N/A	29.0	221	< CUL	N/A	< CUL
AOPC5-2	10/29/18	~ 2	N/A	N/A	N/A	N/A	N/A	8.08	46.3	< CUL	N/A	< CUL
AOPC5-3	10/29/18	~ 2	N/A	N/A	N/A	N/A	N/A	22.7	113	Exceeds	N/A	< CUL
AOPC5-4	10/29/18	~ 3	N/A	N/A	N/A	N/A	N/A	1,660	5,460	< CUL	N/A	< CUL
S1-0	4/27/21	0	2.27	557	188	N/A	5.12	34,700	< 5,010	< CUL	Exceeds	< CUL
S1-0.5	4/28/21	0.5	N/A	N/A	N/A	N/A	N/A	15,100	1,940	N/A	N/A	N/A
S1-2.5	5/26/21	2.5	N/A	N/A	N/A	N/A	N/A	200	84.9	N/A	N/A	N/A
S2-1.5	4/27/21	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S2-2.5	5/26/21	2.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S3-0	4/27/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S4-0.5	4/27/21	0.5	< 1.64	3.72	< 8.20	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S5-0	4/27/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S6-1	4/27/21	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S7-0	4/27/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S8-3.5	4/27/21	3.5	N/A	N/A	N/A	N/A	N/A	5.97	11.8	< CUL	N/A	N/A
S9-3.5	4/27/21	3.5	N/A	N/A	N/A	N/A	N/A	< 4.28	< 10.7	< CUL	N/A	N/A
S10-3.5	4/27/21	3.5	N/A	N/A	N/A	N/A	N/A	< 4.23	< 10.6	< CUL	N/A	N/A
S13-0	4/28/21	0	2.54	365	N/A	N/A	N/A	165	< 233	N/A	Exceeds	N/A
S45-0	5/26/21	0	N/A	N/A	N/A	N/A	N/A	663	153	N/A	N/A	N/A
S46-0	5/26/21	0	1.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S47-0	5/26/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S47-1.5	6/7/21	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S47-1.5 DUP	6/7/21	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S48-0	5/26/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S49-0	5/26/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S51-2.5	5/26/21	2.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S51-3	5/26/21	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S51-4	6/7/21	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S51-5	6/24/21	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S51-6	6/24/21	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S52-3	5/26/21	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S53-2	5/26/21	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S56-1.5	6/7/21	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Exceeds	N/A
S57-1.5	6/7/21	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S58-0	6/7/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S59-0	6/7/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S66-1.5	6/24/21	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
MW2-5	6/14/21	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A	N/A
MW2-52	6/14/21	52	0.11	5.78	N/A	N/A	< 1.32	< 1.66	< 4.16	< CUL	< CUL	N/A
AOPC 6 - Southwest Drywell Soil Samples												
SB-1:20	6/12/17	20	N/A	N/A	N/A	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
AOPC 7 - South Compressor Soil Samples												
AOPC7-01	4/5/17	< 1	N/A	N/A	N/A	N/A	N/A	1,800 <sup>s</sup>	9,400 <sup>s</sup>	N/A	N/A	< CUL

TABLE 1 (continued)



**TABLE 1 (continued)**  
**SOIL SAMPLE ANALYTICAL SUMMARY**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	Metals <sup>b</sup> (ppm) <sup>c</sup>			PHCs <sup>d</sup> (ppm)				VOCs <sup>g</sup>	cPAHs <sup>h</sup>	PCBs <sup>i</sup>
			Cadmium	Lead	Chromium	HCID	Gasoline <sup>e</sup>	Diesel <sup>f</sup>	Oil <sup>f</sup>			
AOPC 7 - South Compressor Soil Samples (cont.)												
AOPC7-02	4/5/17	< 1	N/A	N/A	N/A	N/A	< 2.00	< 50.00	< 250	N/A	N/A	< CUL
SB-4:15	6/13/17	15	< 1.00	2.79	3.81	N/A	< 2.00	< 50.00	< 250	< CUL	< CUL	< CUL
SB-19:5	4/3/18	5	N/A	N/A	N/A	N/A	N/A	190 <sup>s</sup>	580	N/A	N/A	N/A
HA-25:<1	4/3/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
HA-26:<1	4/3/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	330	N/A	N/A	N/A
AOPC7-1	10/29/18	~ 1.5	N/A	N/A	N/A	N/A	N/A	97.6	338	N/A	N/A	< CUL
AOPC7-2	10/29/18	~ 1.5	N/A	N/A	N/A	N/A	N/A	69.5	522	N/A	N/A	< CUL
AOPC 8 - Maintenance Shop Building Soil Samples												
HA-1:1.0 <sup>t</sup>	6/13/17	1	< 1.00	23.7	14.4	N/A	< 2.00	1,600 <sup>s</sup>	8,500	< CUL	N/A	< CUL
HA-2:1.5	6/13/17	1.5	< 1.00	15.6	8.11	N/A	5.30	78.0	< 250	< CUL	N/A	< CUL
HA-3:0.8	6/13/17	0.8	< 1.00	36.1	38.3	N/A	< 2.00	< 50.0	< 250	< CUL	N/A	< CUL
HA-4:0.5	6/13/17	0.5	< 1.00	11.5	23.2	N/A	< 2.00	230 <sup>s</sup>	3,400	< CUL	N/A	< CUL
SB-17:5	4/3/18	5	N/A	N/A	N/A	N/A	N/A	< 50.0	350	N/A	N/A	N/A
HA-21:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
HA-22:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
HA-23:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
HA-24:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
S14-1	4/28/21	1	N/A	N/A	N/A	N/A	N/A	< 171	752	N/A	N/A	N/A
S15-0	4/28/21	0	N/A	N/A	N/A	N/A	N/A	< 178	446	N/A	Exceeds	N/A
S15-1	5/26/21	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S25-1.5	4/29/21	1.5	N/A	N/A	N/A	N/A	N/A	667	3,350	N/A	N/A	N/A
S25-2	4/29/21	2	N/A	N/A	N/A	N/A	N/A	639	3,300	N/A	N/A	N/A
S25-2.5	5/26/21	2.5	N/A	N/A	N/A	N/A	N/A	847	4,830	N/A	N/A	N/A
S25-3.0	8/12/21	3	N/A	N/A	N/A	N/A	N/A	422	1,990	N/A	N/A	N/A
S25-4	8/12/21	4	N/A	N/A	N/A	N/A	N/A	5.71	30.8	N/A	N/A	N/A
S31-0	4/30/21	0	N/A	N/A	N/A	N/A	N/A	5.73	42.0	N/A	N/A	N/A
S50-0	5/26/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S50-0 DUP	5/26/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
AOPC 9 - Welding Station Building Soil Samples												
AOPC9-01	4/5/17	< 1	< 1.00	4.58	306	N/A	< 2.00	130 <sup>s</sup>	910	< CUL	< CUL	N/A
AOPC9-02	4/5/17	< 1	< 1.00	< 1.00	2,360	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AOPC9-03	4/5/17	< 1	1.17	7.24	2,880	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SB-16:5	4/3/18	5	N/A	N/A	12.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-16:<1	4/4/18	< 1	N/A	N/A	8.66 <sup>u</sup> / 10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-17:<1	4/4/18	< 1	N/A	N/A	8.93	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-18:<1	4/4/18	< 1	N/A	N/A	57.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-19:<1	4/4/18	< 1	N/A	N/A	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HA-20:>1	4/4/18	< 1	N/A	N/A	23.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S23-1	4/29/21	1	N/A	N/A	31.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S24-0	6/8/21	0	N/A	N/A	235.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S24-1	4/29/21	1	N/A	N/A	22.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S67-0	8/12/21	0	N/A	N/A	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S67-0 DUP	8/12/21	0	N/A	N/A	27.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S68-0	8/12/21	0	N/A	N/A	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 1 (continued)

**TABLE 1 (continued)**  
**SOIL SAMPLE ANALYTICAL SUMMARY**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	Metals <sup>b</sup> (ppm) <sup>c</sup>			PHCs <sup>d</sup> (ppm)				VOCs <sup>g</sup>	cPAHs <sup>h</sup>	PCBs <sup>i</sup>
			Cadmium	Lead	Chromium	HCID	Gasoline <sup>e</sup>	Diesel <sup>f</sup>	Oil <sup>f</sup>			
AOPC 9 - Welding Station Building Soil Samples (cont.)												
SB-7:5	6/14/17	5	< 1.00	11.2	10.4	N/A	< 2.00	< 50.0	< 250	N/A	N/A	N/A
AOPC 10 - Stormwater Retention Structure Soil Samples												
SB-7:5	6/14/17	5	< 1.00	11.2	< 1.00	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
AOPC 11 - Oil-Sand Storage and Bag House Soil Samples												
AOPC11-01	4/5/17	< 1	< 1.00	1.75	10.7	N/A	N/A	91.0 <sup>s</sup>	< 250	N/A	N/A	< CUL
AOPC11-02	4/5/17	< 1	< 1.00	1.59	6.45	N/A	N/A	< 50.0	< 250	N/A	N/A	< CUL
AOPC11-03	4/5/17	< 1	< 1.00	1.57	75.0	N/A	N/A	N/A	N/A	N/A	N/A	< CUL
AOPC 12 - Northwest Petroleum Storage Soil Samples												
AOPC12-01	4/5/17	< 1	< 1.00	3.51	7.32	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
AOPC12-02	4/5/17	< 1	< 1.00	18.9	31.8	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
AOPC12-03	4/5/17	< 1	< 1.00	17.4	24.4	N/A	< 2.00	< 50.0	670	< CUL	< CUL	< CUL
AOPC 13 - Foundry Waste Material Soil Samples												
AOPC13-01	4/5/17	< 1	< 1.00	4.38	107	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
AOPC13-02	4/5/17	< 1	< 1.00	2.99	21.0	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
AOPC13-03	4/5/17	< 1	< 1.00	115	92.9	N/A	< 2.00	< 50.0	< 250	< CUL	Exceeds	< CUL
AOPC13-04	4/5/17	< 1	< 1.00	36.6	76.4	N/A	8.60	< 50.0	< 250	< CUL	< CUL	< CUL
SB-6:10	6/14/17	10	< 1.00	4.63	13.8	N/A	< 2.00	< 50.0	< 250	< CUL	< CUL	< CUL
SB-11:5	4/3/18	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
HA-8:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
HA-9:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S11-1	4/28/21	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
S12-0	4/28/21	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< CUL	N/A
AOPC 14 - North Compressor Soil Samples												
AOPC14-01	4/5/17	< 1	N/A	N/A	N/A	N/A	N/A	120 <sup>s</sup>	7,100 <sup>s</sup>	N/A	N/A	N/A
AOPC14-02	4/5/17	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
SB-8:5	6/15/17	5	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	< CUL
S16-1	4/28/21	1	N/A	N/A	N/A	N/A	N/A	< 89.2	268	N/A	N/A	N/A
S17-0	4/28/21	0	N/A	N/A	N/A	N/A	N/A	22.0	159	N/A	N/A	N/A
HA-10:<1	4/4/18	< 1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	N/A
AOPC14-1	10/29/18	0	N/A	N/A	N/A	N/A	N/A	21.2	155	N/A	N/A	< CUL
AOPC 15 - Clark County Transformer Compound Soil Samples												
HA-5:1.0	6/13/17	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	< CUL
HA-6:1.0	6/13/17	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	< CUL
HA-7:1.0	6/13/17	1	N/A	N/A	N/A	N/A	N/A	< 50.0	< 250	N/A	N/A	< CUL

**TABLE 1 (continued)**

**TABLE 1 (continued)**  
**SOIL SAMPLE ANALYTICAL SUMMARY**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	Metals <sup>b</sup> (ppm) <sup>c</sup>			PHCs <sup>d</sup> (ppm)				VOCs <sup>g</sup>	cPAHs <sup>h</sup>	PCBs <sup>i</sup>
			Cadmium	Lead	Chromium	HCID	Gasoline <sup>e</sup>	Diesel <sup>f</sup>	Oil <sup>f</sup>			
Stockpile Soil Samples												
STOCKPILE 1	10/29/18	na <sup>v</sup>	0.596	128	41.1	N/A	0.973	213	1,130	< CUL	Exceeds	< CUL
STOCKPILE 2	10/29/18	na	< 0.0700	21.4	185	N/A	1.55	119	620	< CUL	Exceeds	< CUL
STOCKPILE 1-A	4/30/21	na	< 1.04	100	25.3	N/A	< 2.76	42.2	76.4	< CUL	< CUL	< CUL
STOCKPILE 1-B	4/30/21	na	< 1.05	7.14	98.0	N/A	< 2.75	17.4	63.2	< CUL	< CUL	N/A
STOCKPILE 1-C	4/30/21	na	< 1.20	16.0	17.6	N/A	< 3.59	9.38	27.5	< CUL	< CUL	N/A
STOCKPILE 2-ABC	4/30/21	na	1.14	198	155	N/A	< 2.98	1,110	864	< CUL	Exceeds	N/A
STOCKPILE 3-ABC	4/30/21	na	< 1.09	22.1	34.5	N/A	< 2.97	73.5	120	< CUL	< CUL	< CUL
MTCA Method A Soil Cleanup Levels (ppm)												
For Unrestricted Land Uses			2	250	2,000	See Table 1	30/100 <sup>w</sup>	2,000	2,000	See Table 1, 4, 5, 6, and 7		
<div>a Depth of Sample, in feet below surface grade (bsg)</div> <div>b Total Metals analysis by EPA method 6020 (ICPMS) or EPA method 6010C. Mercury (Hg) by Method 7471A. Total hexavalent chromium analysis by EPA method 7196 A</div> <div>c Analytical results reported in parts per million (ppm)</div> <div>d Petroleum hydrocarbons (PHCs) analyzed using Northwest Total Petroleum Hydrocarbons (NWTPH) method HCID. "G" denotes gasoline hydrocarbon detection, "D" denotes diesel hydrocarbon detection, and "O" denotes heavy oil hydrocarbon detection</div> <div>e Gasoline analyzed using NWTPH method Gx</div> <div>f Diesel and Oil analyzed using NWTPH method Dx</div> <div>g Volatile Organic Compounds (VOCs) benzene, toluene, ethylbenzene, and xylenes (BTEX) analyzed using EPA method 8260B</div> <div>h Cacinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) analyzed using EPA method 8270D SIM</div> <div>i Polychlorinated biphenyls (PCBs) analyzed using EPA method 8082A</div> <div>j <b>Brown text</b> indicates samples represent soil that was removed and disposed during excavation cleanup</div> <div>k <b>Bold value</b> indicates analyte concentration exceeded the laboratory reporting limit</div> <div>l <b>Yellow Shading</b> indicates analyte concentration, or one-half of the laboratory reporting limit, Exceeds the MTCA Method A Cleanup Level</div> <div>m (N/A) Not analyzed</div> <div>n ( &lt; ) Analyte concentration not detected above the laboratory reporting limit, as listed</div> <div>o ( &lt; CUL ) One or more analyte concentration detected below the MTCA Method A Cleanup Level</div> <div>p One or more analyte concentration detected above the MTCA Method A Cleanup Level</div> <div>q ( ~ ) Sample depth estimated based on photographic log obtained from AEG Environmental Group, LLC</div> <div>r <b>Green Shading</b> indicates the combined diesel and oil concentrations exceeded the cleanup level</div> <div>s Laboratory Qualifier: The sample chromatographic pattern does not resemble the fuel standard used for quantitation</div> <div>t <b>Green text</b> indicates sample represents soil that is capped with concrete/asphalt</div> <div>u Laboratory Qualifier: The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.</div> <div>v Not applicable</div> <div>w MTCA Method A soil cleanup level is 100 ppm for gas mixture without BTEX and 30 ppm for all other gas mixtures</div>												

S:\Project Files\North Star Casteel\Tables\0-CURRENT WORKING TABLES\T 1 Soil Summary (CN).xls\T 1

# **TABLE 2** **SOIL SAMPLE ANALYTICAL DATA - PHCs and VOCs**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	HCID (G, D, O) <sup>f</sup>	PHCs <sup>b</sup> (ppm) <sup>c</sup>			VOCs <sup>d</sup> (ppm)													
				BTEX <sup>e</sup> VOCs				Detected Additional VOCs												
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acetone	Isopropylbenzne	Methylene Chloride	Naphthalene	Tetrachloroethylene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	
AOPC 1 - Metal Receiving Area Soil Samples																				
AOPC1-02	4/5/17	< 1	- <sup>g</sup>	< 2.00 <sup>h</sup>	< 50.0	290 <sup>i</sup>	< 0.0300	< 0.0500	< 0.0500	< 0.1500	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	- <sup>i</sup>	< 0.0500	
AOPC1-03 <sup>j</sup>	4/5/17	< 1	-	< 2.00	200	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.1500	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC1-04	4/5/17	< 1	-	-	14,000 <sup>k,l</sup>	87,000	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC1-05	4/5/17	< 1	-	-	46,000 <sup>l</sup>	29,000	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB-9:5	6/15/17	5	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB-10:5	6/15/17	5	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB-15:<1	4/3/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC1-1	10/29/18	~ 1.5 <sup>m</sup>	-	1.27	11.6	63.7	< 0.00114	0.00143	< 0.00284	< 0.00740	< 0.0284	-	< 0.0284	0.0153	< 0.00114	< 0.00284	0.00282	< 0.00569	< 0.00569	
AOPC1-2	10/29/18	~ 1.5	-	1.30	21.0	82.4	0.00194	0.0111	0.00281	0.0362	< 0.0315	-	< 0.0315	0.00858	< 0.00315	< 0.00315	0.00409	< 0.00630	< 0.00630	
AOPC1-3	11/14/18	~ 1	-	< 3.16	< 5.06	< 12.7	0.000581	< 0.00158	< 0.00316	< 0.00823	< 0.0316	-	0.0194	< 0.0158	< 0.00316	< 0.00316	< 0.00633	< 0.00633	< 0.00633	
AOPC1-4	11/14/18	~ 1.5	-	< 2.97	6.08	34.7	0.000576	< 0.00594	< 0.00297	< 0.00772	< 0.0297	-	0.0173	< 0.0148	< 0.00297	< 0.00297	< 0.00594	< 0.00594	< 0.00594	
AOPC1-5	11/14/18	~ 1.5	-	< 2.93	26.2	126	0.000509	< 0.00585	< 0.00293	< 0.00761	< 0.0293	-	0.0170	< 0.0146	< 0.00293	< 0.00293	< 0.00585	< 0.00585	< 0.00585	
S18-0	4/29/21	0	D, O	-	39.0	247	-	-	-	-	-	-	-	-	-	-	-	-	-	
S19-0	4/29/21	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S19-1	5/26/21	1	-	-	26.9	124	-	-	-	-	-	-	-	-	-	-	-	-	-	
S20-9 Dup	4/29/21	9	-	-	< 4.80	< 12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	
S20-9	4/29/21	9	-	-	< 4.89	< 12.2	-	-	-	-	-	-	-	-	-	-	-	-	-	
S21-9	4/29/21	9	-	-	< 4.79	< 12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	
S22-9	4/29/21	9	-	-	< 4.91	< 12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
S28-8	4/29/21	8	-	< 4.87	< 4.87	< 4.87	-	-	-	-	-	-	-	-	-	-	-	-	-	
S32-1.5	4/30/21	1.5	-	-	< 4.81	< 12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	
S33-9	4/30/21	9	-	-	< 4.40	< 11.0	< 0.00121	< 0.00605	< 0.00303	< 0.00787	< 0.0605	-	< 0.0303	< 0.0151	< 0.00303	< 0.00303	< 0.00605	< 0.00605	< 0.00605	
S34-2	4/30/21	2	-	-	4.63	15.4	-	-	-	-	-	-	-	-	-	-	-	-	-	
S35-0.5	4/30/21	0.5	-	-	22.8	119	-	-	-	-	-	-	-	-	-	-	-	-	-	
S36-1	4/30/21	1	-	-	< 44.0	271	-	-	-	-	-	-	-	-	-	-	-	-	-	
S37-1	4/30/21	1	-	-	< 5.04	< 12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	

TABLE 2 (Continued)

**TABLE 2 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - PHCs and VOCs**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	HCID (G, D, O)	PHCs <sup>b</sup> (ppm) <sup>c</sup>			VOCs <sup>d</sup> (ppm)												
				BTEX <sup>e</sup>				Detected Additional VOCs											
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acetone	Isopropylbenzne	Methylene Chloride	Naphthalene	Tetrachloroethylene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene
AOPC 1 - Metal Receiving Area Soil Samples (Cont.)																			
S38-1.5	4/30/21	1.5	-	-	288	1,580	0.00321	0.0181	0.00627	0.0269	< 0.0692	< 0.00346	< 0.0346	< 0.0173	< 0.00346	< 0.00346	0.0106	< 0.00692	< 0.00692
S39-1.5	4/30/21	1.5	-	-	68.6	175	-	-	-	-	-	-	-	-	-	-	-	-	-
S40-1.5	5/26/21	1.5	-	-	538 <sup>n</sup>	1,950	-	-	-	-	-	-	-	-	-	-	-	-	-
S40-2.5	6/7/21	2.5	-	-	85.5	286	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC 3 - Foundry Building - Sands Soil Samples																			
AOPC3-01	4/5/17	< 1	-	-	81.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC3-03	4/5/17	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC3-01	4/3/18	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC3-01	4/3/18	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC3-03	4/3/18	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
SB:12-1	4/3/18	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
SB:13-1	4/3/18	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
SB14-1	4/3/18	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC 4 - Stormwater Drain - Main Yard Soil Samples																			
AOPC4-01	4/5/17	< 1	-	< 2.00	120 <sup>i</sup>	890	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500
AOPC4-02	4/5/17	< 1	-	< 2.00	87.0 <sup>i</sup>	980	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500
SB-5:15	6/13/17	15	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500
AOPC 5 - Southwest Compressor Soil Samples																			
AOPC5-01	4/5/17	< 1	-	-	2,800 <sup>i</sup>	38,000	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC5-02	4/5/17	< 1	-	-	1,800 <sup>i</sup>	25,000	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC5-03	4/5/17	< 1	-	-	300 <sup>i</sup>	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-
SB-2:15	6/12/17	15	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
SB-3:5	6/13/17	5	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
SB-18:5	4/3/18	5	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-27:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-28:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-29:<1	4/4/18	< 1	-	-	150 <sup>i</sup>	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 2 (Continued)

**TABLE 2 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - PHCs and VOCs**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	HCID (G, D, O)	PHCs <sup>b</sup> (ppm) <sup>c</sup>			VOCs <sup>d</sup> (ppm)													
				BTEX <sup>e</sup>				Detected Additional VOCs												
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acetone	Isopropylbenzne	Methylene Chloride	Naphthalene	Tetrachloroethylene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	
AOPC 5 - Southwest Compressor Soil Samples (Cont.)																				
HA-30:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA-31:<1	4/3/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC5-1	10/29/18	~ 3	-	-	29.0	221	< 0.00221	< 0.0111	< 0.00553	< 0.0144	< 0.0553	-	< 0.0553	< 0.0276	0.0241	< 0.00553	0.00509	< 0.0111	< 0.0111	
AOPC5-2	10/29/18	~ 2	-	-	8.08	46.3	< 0.00106	< 0.00532	< 0.00266	< 0.00692	< 0.0266	-	< 0.0266	0.00466	0.00993	< 0.00266	0.00327	< 0.00532	< 0.00532	
AOPC5-3	10/29/18	~ 2	-	-	22.7	113	0.000918	0.00309	< 0.00553	< 0.0144	< 0.0553	-	< 0.0553	0.0213	0.0910	< 0.00553	0.00346	< 0.0111	< 0.0111	
AOPC5-4	10/29/18	~ 3	-	-	1,660	5,460	< 0.00110	< 0.00550	< 0.00275	< 0.00716	< 0.0275	-	< 0.0275	< 0.0138	0.0292	< 0.00275	< 0.00550	< 0.00550	< 0.00550	
S1-0	4/27/21	0	-	5.12	34,700	< 5,010	< 0.0323	< 0.162	< 0.0808	< 0.210	< 1.62	< 0.0808	< 0.808	< 0.404	< 0.0808	< 0.0808	< 0.162	< 0.162	< 0.162	
S1-0.5	4/28/21	0.5	-	-	15,100	1,940	-	-	-	-	-	-	-	-	-	-	-	-	-	
S1-2.5	5/26/21	2.5	-	-	200	84.9	-	-	-	-	-	-	-	-	-	-	-	-	-	
S8-3.5	4/27/21	3.5	-	-	5.97	11.8	< 0.00110	< 0.00551	< 0.00275	< 0.00716	< 0.0551	< 0.00275	< 0.0275	< 0.0138	< 0.00275	< 0.00275	< 0.00551	< 0.00551	< 0.00551	
S9-3.5	4/27/21	3.5	-	-	< 4.28	< 10.7	< 0.00114	< 0.00572	< 0.00286	< 0.00744	< 0.0572	-	< 0.0286	< 0.0143	< 0.00286	< 0.00286	< 0.00572	< 0.00572	< 0.00572	
S10-3.5	4/27/21	3.5	-	-	< 4.23	< 10.6	< 0.00112	< 0.00562	< 0.00281	< 0.00731	< 0.0562	-	< 0.0281	< 0.0141	< 0.00281	< 0.00281	< 0.00562	< 0.00562	< 0.00562	
S13-0	4/28/21	0	-	-	165	< 233	-	-	-	-	-	-	-	-	-	-	-	-	-	
S45-0	5/26/21	0	-	-	663	153	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW2-5	6/14/21	5	-	-	-	-	0.00119	0.0129	< 0.000921	0.0109	< 0.0457	< 0.000532	< 0.00831	0.0372	0.00457	< 0.00103	0.00678	0.00369	0.00385	
MW2-52	6/14/21	52	-	< 1.32	< 1.66	< 4.16	< 0.000725	< 0.00202	< 0.00114	< 0.00137	< 0.0567	< 0.000660	< 0.0103	< 0.00758	0.00300	< 0.00128	< 0.00245	< 0.00245	< 0.00311	
AOPC 6 - Southwest Drywell Soil Samples																				
SB-1:20	6/12/17	20	-	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	< 0.0500	
AOPC 7 - South Compressor Soil Samples																				
AOPC7-01	4/5/17	< 1	-	-	1,800 <sup>l</sup>	9,400 <sup>l</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC7-02	4/5/17	< 1	-	< 2.00	< 50.00	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB-4:15	6/13/17	15	-	< 2.00	< 50.00	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
SB-19:5	4/3/18	5	-	-	190 <sup>l</sup>	580	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA-25:<1	4/3/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA-26:<1	4/3/18	< 1	-	-	< 50.0	330	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC7-1	10/29/18	~ 1.5	-	-	97.6	338	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC7-2	10/29/18	~ 1.5	-	-	69.5	522	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC 8 - Maintenance Shop Building Soil Samples																				
HA-1:1.0 <sup>o</sup>	6/13/17	1	-	< 2.00	1,600 <sup>l</sup>	8,500	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
HA-2:1.5	6/13/17	1.5	-	5.30	78.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
TABLE 2 (Continued)																				

**TABLE 2 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - PHCs and VOCs**  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	HCID (G, D, O)	PHCs <sup>b</sup> (ppm) <sup>c</sup>			VOCs <sup>d</sup> (ppm)													
				BTEX <sup>e</sup>				Detected Additional VOCs												
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acetone	Isopropylbenzne	Methylene Chloride	Naphthalene	Tetrachloroethylene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene	
AOPC 8 - Maintenance Shop Building Soil Samples (Cont.)																				
HA-3:0.8	6/13/17	0.8	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
HA-4:0.5	6/13/17	0.5	-	< 2.00	230 <sup>l</sup>	3,400	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
SB-17:5	4/3/18	5	-	-	< 50.0	350	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA-21:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA-22:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA-23:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA-24:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
S14-1	4/28/21	1	-	-	< 171	752	-	-	-	-	-	-	-	-	-	-	-	-	-	
S15-0	4/28/21	0	-	-	< 178	446	-	-	-	-	-	-	-	-	-	-	-	-	-	
S25-1.5	4/29/21	1.5	-	-	667	3,350	-	-	-	-	-	-	-	-	-	-	-	-	-	
S25-2	4/29/21	2	-	-	639	3,300	-	-	-	-	-	-	-	-	-	-	-	-	-	
S25-2.5	5/26/21	2.5	-	-	847	4,830	-	-	-	-	-	-	-	-	-	-	-	-	-	
S25-3.0	8/12/21	3	-	-	422	1,990	-	-	-	-	-	-	-	-	-	-	-	-	-	
S25-4	8/12/21	4	-	-	5.71	30.8	-	-	-	-	-	-	-	-	-	-	-	-	-	
S31-0	4/30/21	0	-	-	5.73	42.0	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC 9 - Welding Station Building Soil Samples																				
AOPC9-01	4/5/17	< 1	-	< 2.00	130 <sup>l</sup>	910	< 0.0300	< 0.0500	< 0.0500	< 0.1500	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC 10 - Stormwater Retention Structure Soil Samples																				
SB-7:5	6/14/17	5	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC 11 - Oil-Sand Storage and Bag House Soil Samples																				
AOPC11-01	4/5/17	< 1	-	-	91.0 <sup>l</sup>	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC11-02	4/5/17	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC 12 - Northwest Petroleum Storage Soil Samples																				
AOPC12-01	4/5/17	< 1	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC12-02	4/5/17	< 1	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC12-03	4/5/17	< 1	-	< 2.00	< 50.0	670	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC 13 - Foundry Waste Material Soil Samples																				
AOPC13-01	4/5/17	< 1	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	0.140	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC13-02	4/5/17	< 1	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC13-03	4/5/17	< 1	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	
AOPC13-04	4/5/17	< 1	-	8.60	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	0.0820	< 0.0250	< 0.500	0.210	-	0.0970	
SB-6:10	6/14/17	10	-	< 2.00	< 50.0	< 250	< 0.0300	< 0.0500	< 0.0500	< 0.150	< 0.500	-	< 0.500	< 0.0500	< 0.0250	< 0.500	< 0.0500	-	< 0.0500	

TABLE 2 (Continued)

**TABLE 2 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - PHCs and VOCs**  
 North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	HCID (G, D, O)	PHCs <sup>b</sup> (ppm) <sup>c</sup>			VOCs <sup>d</sup> (ppm)												
				BTEX <sup>e</sup>				Detected Additional VOCs											
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acetone	Isopropylbenzne	Methylene Chloride	Naphthalene	Tetrachloroethylene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene
AOPC 14 - North Compressor Soil Samples																			
AOPC14-01	4/5/17	< 1	-	-	120 <sup>1</sup>	7,100 <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC14-02	4/5/17	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
SB-8:5	6/15/17	5	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-10:<1	4/4/18	< 1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC14-1	10/29/18	0	-	-	21.2	155	-	-	-	-	-	-	-	-	-	-	-	-	-
S16-1	4/28/21	1	-	-	< 89.2	268	-	-	-	-	-	-	-	-	-	-	-	-	-
S17-0	4/28/21	0	-	-	22.0	159	-	-	-	-	-	-	-	-	-	-	-	-	-
AOPC 15 - Clark County Transformer Compound Soil Samples																			
HA-5:1.0	6/13/17	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-6:1.0	6/13/17	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-7:1.0	6/13/17	1	-	-	< 50.0	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-
Stockpile Soil Samples																			
STOCKPILE 1	10/29/18	na <sup>P</sup>	-	0.973	213	1,130	0.00333	0.0117	0.00353	0.0342	0.0218	-	< 0.0271	0.00673	< 0.00271	0.0753	0.00421	0.00231	0.00171
STOCKPILE 2	10/29/18	na	-	1.55	119	620	0.00215	0.00519	< 0.000585	< 0.00718	0.0240	-	< 0.0276	0.0137	0.00914	< 0.00276	0.00352	0.00186	0.00163
STOCKPILE 1-A	4/30/21	na	-	< 2.76	42.2	76.4	< 0.00110	0.035	< 0.00276	0.00782	< 0.0552	0.00384	< 0.0276	0.0468	0.00899	< 0.00276	0.00657	< 0.00552	< 0.00552
STOCKPILE 1-B	4/30/21	na	-	< 2.75	17.4	63.2	0.00190	0.00931	0.00283	0.0437	< 0.0550	< 0.00275	< 0.0275	0.0239	< 0.00275	< 0.00275	0.0161	0.00574	0.00802
STOCKPILE 1-C	4/30/21	na	-	< 3.59	9.38	27.5	< 0.00144	< 0.00719	< 0.00359	< 0.00934	< 0.0719	< 0.00359	< 0.0359	0.0436	< 0.00359	< 0.00359	< 0.00719	< 0.00719	< 0.00719
STOCKPILE 2-ABC	4/30/21	na	-	< 2.98	1,110	864	0.00283	0.015	0.00343	0.0251	< 0.0595	< 0.00298	< 0.0298	0.0612	0.111	< 0.00298	0.0258	0.0205	0.0133
TABLE 2 (Continued)																			



TABLE 2 (Continued)  
SOIL SAMPLE ANALYTICAL DATA - PHCs and VOCs  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	HCID (G, D, O)	PHCs <sup>b</sup> (ppm) <sup>c</sup>			VOCs <sup>d</sup> (ppm)												
				BTEX <sup>e</sup>				Detected Additional VOCs											
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acetone	Isopropylbenzne	Methylene Chloride	Naphthalene	Tetrachloroethylene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,2,3-Trimethylbenzene	1,3,5-Trimethylbenzene
Stockpile Soil Samples (Cont.)																			
STOCKPILE 3-ABC	4/30/21	na	-	< 2.97	73.5	120	< 0.00119	0.0121	< 0.00297	0.0177	< 0.0595	< 0.00297	< 0.0297	0.0202	< 0.00297	< 0.00297	0.00762	< 0.00595	< 0.00595
MTCA Method A Soil Cleanup Levels																			
Unrestricted Land Uses			--	30 / 100 <sup>q</sup>	2,000	2,000	0.03	7	6	9	-- <sup>r</sup>	--	--	5	0.05	--	--	--	--
<div>a Depth of sample in feet below surface grade (bsg)</div> <div>b Petroleum hydrocarbons (PHCs) were analyzed using NWTPH methods Gx (gasoline) and Dx (diesel and oil)</div> <div>c Analytical results reported in parts per million (ppm)</div> <div>d Volatile organic compounds (VOCs) were analyzed using EPA method 8260C or 8260D. VOCs not listed in the table were not detected in any samples and are listed in the laboratory report</div> <div>e Benzene, toluene, ethylbenzene, and xylenes (BTEX)</div> <div>f Hydrocarbon Identification analyzed using NWTPH method HCID. "G" denotes gasoline hydrocarbon detection, "D" denotes diesel hydrocarbon detection, and "O" denotes heavy oil hydrocarbon detection</div> <div>g ( - ) Not analyzed</div> <div>h ( &lt; ) Analyte concentration not detected above the laboratory reporting limit, as listed</div> <div>i Bold value indicates analyte concentration exceeded laboratory reporting limit</div> <div>j Brown text indicates samples represent soil that was removed and disposed during excavation cleanup activities</div> <div>k Yellow shading indicates analyte concentration (or one-half the laboratory reporting limit) exceeds an RBC. The exceeded level is also shaded</div> <div>l Laboratory Qualifier: The sample chromatographic pattern does not resemble the fuel standard used for quantitation</div> <div>m ( ~ ) Sample depth estimated based on photographic log obtained from AEG Environmental Group, LLC</div> <div>n Green Shading indicates the combined diesel and oil concentrations exceeded the cleanup level</div> <div>o Green text indicates sample represents soil that is capped with concrete/asphalt</div> <div>p ( na ) Not applicable</div> <div>q MTCA Method A Soil Cleanup Level is 30 mg/kg when benzene is present in the sample and 100 mg/kg when benzene is not detected</div> <div>r ( - - ) Not Available (Washington Department of Ecology has not established a Method A Soil Cleanup Level for the respective analyte)</div>																			

S:\Project Files\North Star Casteel\Tables\0)-CURRENT WORKING TABLES\T2 Soil - PHCs & VOCs (CN).xlsx\PHCs & VOCs

TABLE 3  
SOIL SAMPLE ANALYTICAL DATA - SVOCs

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	SVOCs <sup>b</sup> (ppm) <sup>c</sup>																					
			cPAHs <sup>d</sup>								Detected Additional SVOCs													
			Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	TEF-Adjusted Total cPAHs <sup>e</sup>	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzylbutyl phthalate	Bis(2-ethylhexyl)phthalate	Benzo(g,h,i)perylene	2-Methylnaphthalene	Phenol	
AOPC 1 - Metal Receiving Area Soil Samples																								
AOPC1-02	4/5/17	< 1	< 0.0100 <sup>f</sup>	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	0.031 <sup>g</sup>	< 0.0100	< 0.0100	< 0.0100	< 0.0100	0.012	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.800	< 0.0100	< 0.0500	< 0.500
AOPC1-03 <sup>h</sup>	4/5/17	< 1	0.0530	0.0700	0.0610	0.0200	0.0910	< 0.0100	0.0300	0.0725	0.0370	0.0180	< 0.0100	0.0380	0.230	0.0280	0.110	0.150	< 0.500	< 0.800	0.0340	< 0.0500	< 0.500	
AOPC1-04	4/5/17	< 1	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 7.55 <sup>i</sup>	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 1,000	< 1,600	< 10.0	< 100	< 1,000	
AOPC1-05	4/5/17	< 1	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 7.55	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 500	< 800	< 10.0	< 50.0	< 500	
SB-9:5	6/15/17	5	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.01 00	< 0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	0.0100	0.0120	< 0.500	< 0.800	< 0.01 00	< 0.0500	< 0.500	
SB-10:5	6/15/17	5	< 0.0100	< 0.0100	< 0.01 00	< 0.0100	< 0.0100	< 0.0100	< 0.01 00	< 0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.800	< 0.01 00	< 0.0500	< 0.500	
SB-15:<1	4/3/18	< 1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.01 00	< 0.00755	- <sup>j</sup>	-	-	-	-	-	-	-	-	-	-	-	-	
MW-1:10	4/4/18	10	< 0.0100	< 0.0100	0.0120	< 0.0100	< 0.0100	< 0.0100	< 0.01 00	0.00825	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC1-1	10/29/18	~ 1.5 <sup>k</sup>	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0286	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.0379	< 0.379	0.017	< 0.0379	-	< 0.379	
AOPC1-2	10/29/18	~ 1.5	< 0.0839	< 0.0839	0.0188	< 0.0839	< 0.0839	< 0.0839	< 0.0839	0.0610	< 0.0839	< 0.0839	< 0.0839	< 0.0839	< 0.0839	< 0.0839	0.0156	< 0.0839	< 0.839	< 0.839	< 0.0839	-	< 0.839	
AOPC1-3	11/14/18	~ 1	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0318	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.0421	< 0.421	< 0.421	< 0.421	< 0.0418	< 0.0421	
AOPC1-4	11/14/18	~ 1.5	< 0.0395	< 0.0395	0.0106	< 0.0395	< 0.0395	< 0.0395	< 0.0395	0.0289	0.0193	< 0.0395	< 0.0395	< 0.0395	0.00805	< 0.0395	0.0113	< 0.0395	< 0.395	0.031	< 0.0395	0.0109	0.0377	
AOPC1-5	11/14/18	~ 1.5	< 0.0779	< 0.0779	0.0172	< 0.0779	< 0.0779	< 0.0779	< 0.0779	0.0566	0.0286	< 0.0157	< 0.0157	< 0.0157	0.0268	< 0.0157	0.0233	< 0.0157	0.043	0.0500	< 0.0157	0.0254	0.0623	
S38-1.5	4/30/21	1.5	0.00747	0.00887	0.0160	< 0.00706	0.0100	< 0.00706	< 0.00706	0.0111	< 0.0235	< 0.00706	< 0.00706	< 0.00706	0.00963	< 0.00706	0.012	0.0196	-	-	0.0161	< 0.0235	-	
S40-1.5	5/26/21	1.5	0.0334	0.0507	0.0546	0.0181	0.0599	< 0.00639	0.0261	0.049297	< 0.0197	< 0.00251	< 0.00523	< 0.00479	0.0480	0.0104	0.0775	0.0662	-	-	0.0389	< 0.0115	-	
AOPC 3 - Foundry Building - Sands Soil Samples																								
SB-12:1	4/3/18	1	0.0260	0.0160	0.0400	0.0120	0.0230	< 0.0100	< 0.0100	0.02509	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB-13:1	4/3/18	1	0.0180	0.0140	0.0290	< 0.0100	0.0190	< 0.0100	0.0160	0.03553	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB-14:1	4/3/18	1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	-	-	-	-	-	-	-	-	-	-	-	-	-	
AOPC 4 - Stormwater Drain - Main Yard Soil Samples																								
AOPC4-01	4/5/17	< 1	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.0755	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 25.0	< 40.0	< 0.100	< 2.50	< 25.0	
AOPC4-02	4/5/17	< 1	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.0755	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 25.0	< 40.0	< 0.100	< 2.50	< 25.0	
SB-5:15	6/13/17	15	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.100	< 0.160	< 0.0100	< 0.0100	< 0.100	

Table 3 (Continued)

TABLE 3 (Continued)  
SOIL SAMPLE ANALYTICAL DATA - SVOCs  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	SVOCs <sup>b</sup> (ppm) <sup>c</sup>																				
			cPAHs <sup>d</sup>								Detected Additional SVOCs												
			Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	TEF-Adjusted Total cPAHs <sup>e</sup>	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzylbutyl phthalate	Bis(2ethylhexyl)phthalate	Benzo(g,h,i)perylene	2-Methylnaphthalene	Phenol
AOPC 5 - Southwest Compressor Soil Samples																							
AOPC5-01	4/5/17	< 1	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 7.55	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 500	< 800	< 10.0	< 50.0	< 500
AOPC5-02	4/5/17	< 1	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 7.55	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 500	< 800	< 10.0	< 50.0	< 500
AOPC5-03	4/5/17	< 1	0.120	0.120	0.210	< 0.100	0.180	< 0.100	0.140	0.179	< 0.100	< 0.100	< 0.100	< 0.100	0.170	< 0.100	0.230	0.230	< 120	< 200	0.210	< 12.0	< 120
SB-2:15	6/12/17	15	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	< 0.100	< 0.100	< 0.0100	< 0.100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.8 00	< 0.0100	< 0.0500	< 0.500
SB-3:5	6/13/17	5	0.0150	0.0140	0.0200	< 0.0100	0.0170	< 0.0100	0.0140	0.0210	< 0.100	< 0.100	< 0.100	< 0.100	0.0160	< 0.0100	0.0280	0.0270	< 0.500	< 0.8 00	0.0160	< 0.0500	< 0.500
SB-18:5	4/3/18	5	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-27:<1	4/4/18	< 1	0.0910 <sup>l</sup>	0.0680 <sup>l</sup>	0.130	0.0490 <sup>l</sup>	0.0920 <sup>l</sup>	0.0110 <sup>l</sup>	0.0500 <sup>l</sup>	0.123	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-29:<1	4/4/18	< 1	0.110 <sup>l</sup>	0.0130 <sup>l</sup>	0.310 <sup>l</sup>	< 0.100 <sup>l</sup>	0.0240 <sup>l</sup>	< 0.100 <sup>l</sup>	< 0.100 <sup>l</sup>	0.171	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-31:<1	4/3/18	< 1	0.0990	0.0610	0.180	0.0560	0.110	0.0110	0.0400	0.135	-	-	-	-	-	-	-	-	-	-	-	-	-
S1-0	4/27/21	0	0.128	< 0.150	0.113	0.0308	0.161	0.0109	0.0487	0.157	0.0590	< 0.150	< 0.150	< 0.150	< 0.150	< 0.150	0.220	0.402	-	-	0.0421	0.0433	-
S2-1.5	4/27/21	1.5	0.0508	0.0462	0.0564	0.0241	0.0462	0.00765	0.0457	0.0693	< 0.0247	< 0.00742	< 0.00742	< 0.00742	0.0323	< 0.00742	0.0647	0.0698	-	-	0.0430	< 0.0247	-
S2-2.5	5/26/21	2.5	0.0347	0.0242	0.0508	0.0166	0.0281	0.00690	0.0404	0.0488	0.0146	0.00373	< 0.000226	< 0.00221	0.0284	0.00444	0.0356	0.0379	-	-	0.0485	0.0836	-
S3-0	4/27/21	0	0.628	0.600	0.593	0.266	0.588	0.0992	0.546	0.844	0.0521	0.0523	0.0125	0.0274	0.611	0.156	0.982	0.884	-	-	0.461	0.0278	-
S4-0.5	4/27/21	0.5	< 0.00984	< 0.00984	< 0.00984	< 0.00984	< 0.00984	< 0.00984	< 0.00984	< 0.00743	0.0471	< 0.00984	< 0.00984	< 0.00984	< 0.00984	< 0.00984	< 0.00984	< 0.00984	-	-	< 0.00984	< 0.0328	-
S5-0	4/27/21	0	0.322	0.502	0.538	0.211	0.594	0.0408	0.191	0.476	< 0.0214	< 0.00643	0.00885	0.0111	0.405	0.0559	1.26	1.10	-	-	0.166	< 0.0214	-
S6-1	4/27/21	1	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00508	< 0.0224	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	-	-	< 0.00673	< 0.0224	-
S7-0	4/27/21	0	< 0.00648	< 0.00648	< 0.00648	< 0.00648	< 0.00648	< 0.00648	< 0.00648	< 0.00489	< 0.0216	< 0.00648	< 0.00648	< 0.00648	< 0.00648	< 0.00648	< 0.00648	< 0.00648	-	-	< 0.00648	< 0.0216	-
S13-0	4/28/21	0	0.295	0.412	0.450	0.185	0.455	0.0519	0.285	0.438	0.0736	0.0707	0.0178	0.0450	0.842	0.104	0.899	0.766	-	-	0.236	0.0589	-
S46-0	5/26/21	0	0.0444	0.0555	0.0937	0.0285	0.0704	0.0108	0.0532	0.0692	0.0291	< 0.00238	< 0.00230	< 0.00226	< 0.00254	< 0.00253	0.119	0.113	-	-	0.0535	0.0198	-
S47-0	5/26/21	0	0.0494	0.0424	0.0642	0.0224	0.0525	0.00791	0.0453	0.0681	0.0341	0.0121	0.00887	0.00822	0.0743	0.0105	0.0754	0.0706	-	-	0.0429	0.0346	-
S47-1.5	6/7/21	1.5	0.0197	0.0165	0.0294	0.0102	0.0200	0.00304	0.0215	0.0280	0.0120	0.00464	< 0.00220	< 0.00216	0.0139	0.00242	0.0250	0.0283	-	-	0.0230	0.0141	-
S47-1.5 DUP	6/7/21	1.5	0.0134	0.0107	0.0185	0.00636	0.0159	0.00196	0.0138	0.0187	0.00775	0.00365	< 0.00220	< 0.00216	0.0117	< 0.00242	0.0185	0.0207	-	-	0.0148	0.00550	-
S48-0	5/26/21	0	< 0.00186	< 0.00180	0.00240	< 0.00224	< 0.00241	< 0.00179	< 0.00188	0.00156	0.0212	< 0.00225	< 0.00217	< 0.00213	0.00852	< 0.00373	< 0.00403	< 0.00389	-	-	< 0.00184	< 0.00689	-
S49-0	5/26/21	0	0.328	0.317	0.344	0.128	0.318	0.0468	0.258	0.440	0.0604	0.0306	0.0154	0.0239	0.395	0.125	0.528	0.471	-	-	0.228	0.0457	-
S51-2.5	5/26/21	2.5	0.252	0.166	0.224	0.0758	0.196	0.0257	0.217	0.324	0.0261	0.0191	< 0.00220	0.00227	0.0719	0.0146	0.239	0.320	-	-	0.237	0.00891	-
S51-3	5/26/21	3	0.442	0.260	0.449	0.155	0.283	0.0448	0.397	0.575	0.0452	0.0313	< 0.00221	0.00379	0.109	0.0208	0.491	0.646	-	-	0.471	0.0121	-

Table 3 (Continued)

TABLE 3 (Continued)  
SOIL SAMPLE ANALYTICAL DATA - SVOCs  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	SVOCs <sup>b</sup> (ppm) <sup>c</sup>																				
			cPAHs <sup>d</sup>								Detected Additional SVOCs												
			Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	TEF-Adjusted Total cPAHs <sup>e</sup>	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzylbutyl phthalate	Bis(2ethylhexyl)phthalate	Benzo(g,h,i)perylene	2-Methylnaphthalene	Phenol
AOPC 5 - Southwest Compressor Soil Samples (Cont.)																							
S51-4	6/7/21	4	0.0884	0.0561	0.0832	0.0264	0.0699	0.00875	0.0839	0.115	0.0260	0.0108	< 0.00222	< 0.00218	0.0380	0.00689	0.0864	0.115	-	-	0.0952	0.0102	-
S51-5	6/24/21	5	0.0989	0.0698	0.121	0.0386	0.0760	0.0169	0.0968	0.134	0.0296	0.0101	0.00287	0.00349	0.0824	0.0129	0.119	0.132	-	-	0.111	0.0218	-
S51-6	6/24/21	6	0.0373	0.0271	0.0427	0.0139	0.0318	0.00484	0.0341	0.0499	0.0181	0.00438	< 0.00243	< 0.00238	0.0303	0.00285	0.0573	0.0599	-	-	0.0372	0.0106	-
S52-3	5/26/21	3	0.00598	0.00709	0.00689	0.00259	0.00679	< 0.00189	0.00405	0.00843	0.0227	< 0.00237	< 0.00229	< 0.00225	0.0120	0.00420	0.0123	0.0123	-	-	0.0038	0.00607	-
S53-2	5/26/21	2	< 0.00198	< 0.00191	< 0.00169	< 0.00237	< 0.00256	< 0.00190	< 0.00200	< 0.00148	0.0295	< 0.00238	< 0.00231	< 0.00226	0.0101	0.00376	0.00423	0.00365	-	-	< 0.00195	0.00857	-
S56-1.5	6/7/21	1.5	0.0952	0.0923	0.0989	0.0365	0.104	0.0107	0.0652	0.127	0.0168	0.0136	0.00369	0.00820	0.0943	0.00254	0.139	0.144	-	-	0.0596	0.00909	-
S57-1.5	6/7/21	1.5	0.0260	0.0233	0.0350	0.0119	0.0307	0.00392	0.0243	0.0361	0.0133	0.00356	0.00301	0.00296	0.0326	0.00526	0.0409	0.0403	-	-	0.0248	0.0123	-
S58-0	6/7/21	0	0.0178	0.0128	0.0180	0.00648	0.0131	< 0.00175	0.0154	0.0233	< 0.00416	0.00248	< 0.00213	< 0.00209	0.00754	< 0.00234	0.0197	0.0254	-	-	0.0163	< 0.00435	-
S59-0	6/7/21	0	0.0162	0.0139	0.0185	0.00673	0.0183	0.00179	0.0143	0.0219	0.00547	0.00316	< 0.00212	< 0.00208	0.0117	< 0.00233	0.0245	0.0287	-	-	0.0152	< 0.00433	-
S66-1.5	6/24/21	1.5	0.0607	0.0692	0.0960	0.0316	0.0711	0.01060	0.0536	0.0875	0.0244	0.0170	< 0.00222	0.00372	0.0557	0.0121	0.120	0.122	-	-	0.0557	0.00941	-
MW2-52	6/14/21	52	< 0.00224	< 0.00261	< 0.00191	< 0.00269	< 0.00290	< 0.00215	< 0.00226	< 0.0034	< 0.00510	< 0.00270	< 0.00261	< 0.00256	< 0.00289	< 0.00288	< 0.00284	< 0.00250	-	-	< 0.00221	< 0.00534	-
AOPC 6 - Southwest Drywell Soil Samples																							
SB-1:20	6/12/17	20	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.800	< 0.0100	< 0.0500	< 0.500
AOPC 7 - South Compressor Soil Samples																							
SB-4:15	6/13/17	15	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.800	< 0.0100	< 0.0500	< 0.500
AOPC 8 - Maintenance Shop Building Soil Samples																							
HA-1:1.0 <sup>m</sup>	6/13/17	1	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.0755	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 5.00	< 8.00	0.250	< 0.500	< 5.00
HA-2:1.5	6/13/17	1.5	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.800	< 0.0100	< 0.0500	< 0.500
HA-3:0.8	6/13/17	0.8	0.0120	< 0.0100	0.0180	< 0.0100	0.0160	< 0.0100	0.0100	0.0165	< 0.0100	< 0.0100	< 0.0100	< 0.0100	0.0140	< 0.0100	0.0210	0.0220	< 0.500	< 0.800	0.0120	< 0.0500	< 0.500
HA-4:0.5	6/13/17	0.5	0.430 <sup>l</sup>	0.180	0.830 <sup>l</sup>	0.200 <sup>l</sup>	0.530	< 0.100 <sup>l</sup>	0.220 <sup>l</sup>	0.583	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.230	0.750	< 50.0	< 80.0	< 0.280	< 5.00	< 50.0
SB-17:5	4/3/18	5	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	0.027 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	0.00777	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-21:<1	4/4/18	< 1	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0100 <sup>l</sup>	< 0.0755	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-22:<1	4/4/18	< 1	0.0300 <sup>l</sup>	0.0230 <sup>l</sup>	0.0630 <sup>l</sup>	0.0210 <sup>l</sup>	0.0410 <sup>l</sup>	< 0.0100 <sup>l</sup>	0.0230 <sup>l</sup>	0.0439	-	-	-	-	-	-	-	-	-	-	-	-	-
HA-23:<1	4/4/18	< 1	0.0710 <sup>l</sup>	0.0520 <sup>l</sup>	0.140 <sup>l</sup>	0.0430 <sup>l</sup>	0.0680 <sup>l</sup>	< 0.0100 <sup>l</sup>	0.023 <sup>l</sup>	0.0980	-	-	-	-	-	-	-	-	-	-	-	-	-
S14-1	4/28/21	1	0.0379	0.0213	0.0544	0.0155	0.0225	0.00837	0.0326	0.0513	0.0219	< 0.00642	< 0.00642	< 0.00642	0.0183	< 0.00642	0.0356	0.0361	-	-	0.0330	< 0.0214	-
Table 3 (Continued)																							
AOPC 8 - Maintenance Shop Building Soil Samples (Cont.)																							

TABLE 3 (Continued)  
SOIL SAMPLE ANALYTICAL DATA - SVOCs  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	SVOCs <sup>b</sup> (ppm) <sup>c</sup>																				
			cPAHs <sup>d</sup>								Detected Additional SVOCs												
			Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	TEF-Adjusted Total cPAHs <sup>e</sup>	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzylbutyl phthalate	Bis(2ethylhexyl)phthalate	Benzo(g,h,i)perylene	2-Methylnaphthalene	Phenol
<i>S15-0</i>	4/28/21	0	0.140	0.0971	0.185	0.0641	0.106	0.0212	0.101	0.188	< 0.0222	< 0.00666	< 0.00666	< 0.00666	0.0469	0.0120	0.158	0.133	-	-	0.0817	< 0.0222	-
<i>S15-1</i>	5/26/21	1	0.00384	< 0.0018	0.00587	< 0.00224	< 0.00242	< 0.00179	0.00549	0.00581	< 0.00425	< 0.00225	< 0.00218	< 0.00214	0.00250	< 0.00240	0.00589	0.00527	-	-	0.00606	< 0.00445	-
<i>S50-0</i>	5/26/21	0	0.0453	0.0334	0.0479	0.0132	0.0300	0.0107	0.0368	0.0598	0.00548	0.00278	< 0.00239	< 0.00235	0.0126	0.00372	0.0356	0.0428	-	-	0.0539	< 0.00489	-
<i>S50-0 DUP</i>	5/26/21	0	0.0765	0.0358	0.0892	0.0254	0.0407	< 0.0190	0.0779	0.1007	< 0.0450	< 0.0238	< 0.0230	< 0.0226	< 0.0255	< 0.0254	0.0595	0.0714	-	-	0.101	< 0.0471	-
AOPC 9 - Welding Station Building Soil Samples																							
<i>AOPC9-01</i>	4/5/17	< 1	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.0755	< 0.100	< 0.100	< 0.100	< 0.100	0.160	< 0.100	0.200	0.200	< 25.0	< 40.0	< 0.100	< 2.50	< 25.0
AOPC 10 - Stormwater Retention Structure Soil Samples																							
<i>SB-7:5</i>	6/14/17	5	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.800	< 0.0100	< 0.0500	< 0.500
AOPC 12 - Northwest Petroleum Storage Soil Samples																							
<i>AOPC12-01</i>	4/5/17	< 1	< 0.0100	< 0.0100	0.0140	< 0.0100	0.0110	< 0.0100	< 0.0100	0.00851	0.046	< 0.0100	< 0.0100	< 0.0100	0.0160	< 0.0100	0.0160	0.0190	< 0.500	0.900 <sup>1</sup>	< 0.0100	< 0.0500	< 0.500
<i>AOPC12-02</i>	4/5/17	< 1	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.0755	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 5.00	< 8.00	< 0.100	< 0.500	< 5.00
<i>AOPC12-03</i>	4/5/17	< 1	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.0755	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 5.00	< 8.00	< 0.100	< 0.500	< 5.00
AOPC 13 - Foundry Waste Material Soil Samples																							
<i>AOPC13-01</i>	4/5/17	< 1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	0.220	< 0.0100	< 0.100	0.0120	0.0480	0.0170	0.0250	0.0230	< 0.500	< 0.800	< 0.0100	< 0.0500	< 0.500
<i>AOPC13-02</i>	4/5/17	< 1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	0.0560	< 0.0100	< 0.0100	< 0.0100	0.0170	< 0.0100	< 0.0100	< 0.0100	< 0.500	< 0.800	< 0.0100	< 0.0500	< 0.500
<i>AOPC13-03</i>	4/5/17	< 1	0.120	< 0.100	0.180	< 0.100	0.110	< 0.100	< 0.100	0.159	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.150	0.160	< 5.00	< 8.00	0.120	< 0.500	< 5.00
<i>AOPC13-04</i>	4/5/17	< 1	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.0755	0.470	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 5.00	< 8.00	< 0.100	< 0.500	< 5.00
<i>SB-6:10</i>	6/14/17	10	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.100	< 0.160	< 0.0100	< 0.0100	< 0.100
<i>SB-11:5</i>	4/3/18	5	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>HA-8:&lt;1</i>	4/4/18	< 1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.00755	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>HA-9:&lt;1</i>	4/4/18	< 1	0.0720	0.0540	0.140	0.0420	0.0790	< 0.0100	0.0270	0.0996	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>S11-1</i>	4/28/21	1	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00532	< 0.0235	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00704	-	-	< 0.00704	< 0.0235	-
<i>S12-0</i>	4/28/21	0	< 0.00631	< 0.00631	< 0.00631	< 0.00631	< 0.00631	< 0.00631	< 0.00631	< 0.00476	0.0271	< 0.00631	< 0.00631	< 0.00631	0.00721	< 0.00631	0.00645	0.00712	-	-	< 0.00631	< 0.0210	-

Table 3 (Continued)

TABLE 3 (Continued)  
SOIL SAMPLE ANALYTICAL DATA - SVOCs  
North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	SVOCs <sup>b</sup> (ppm) <sup>c</sup>																				
			cPAHs <sup>d</sup>								Detected Additional SVOCs												
			Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	TEF-Adjusted Total cPAHs <sup>e</sup>	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzylbutyl phthalate	Bis(2ethylhexyl)phthalate	Benzo(g,h,i)perylene	2-Methylnaphthalene	Phenol
Stockpile Soil Samples																							
STOCKPILE-1	10/29/18	na	< 0.361	< 0.361	< 0.361	< 0.361	< 0.361	< 0.361	< 0.361	< 0.273	< 0.361	< 0.361	< 0.361	< 0.361	< 0.361	< 0.361	< 0.361	< 3.61	< 3.61	< 0.361	-	< 3.61	
STOCKPILE-2	10/29/18	na	< 0.368	< 0.368	< 0.368	< 0.368	< 0.368	< 0.368	< 0.368	< 0.278	< 0.368	< 0.368	< 0.0368	< 0.368	< 0.368	< 0.368	< 0.368	< 3.68	0.859	< 0.368	-	0.549	
STOCKPILE 1-A	4/30/21	na	0.0194	0.0168	0.0369	0.0124	0.0229	< 0.00627	0.0250	0.0291	< 0.0209	< 0.00627	< 0.00627	< 0.00627	0.0221	< 0.00627	0.038	0.0373	-	-	0.0281	< 0.0209	-
STOCKPILE 1-B	4/30/21	na	< 0.00628	< 0.00628	< 0.00628	< 0.00628	< 0.00628	< 0.00628	< 0.00628	0.00474	0.0279	< 0.00628	< 0.00628	< 0.00628	0.00979	< 0.00628	0.00658	< 0.00628	-	-	< 0.00628	< 0.0209	-
STOCKPILE 1-C	4/30/21	na	0.0225	0.0243	0.0301	0.0110	0.0263	< 0.00720	0.0185	0.0315	< 0.0240	< 0.00720	< 0.00720	< 0.00720	0.0339	< 0.00720	0.0460	0.0492	-	-	0.0197	< 0.0240	-
STOCKPILE 2-ABC	4/30/21	na	0.104	0.0795	0.123	0.0406	0.0691	0.0163	0.107	0.141	0.0537	0.0142	0.00701	0.00939	0.109	0.0249	0.127	0.129	-	-	0.112	0.0331	-
STOCKPILE 3-ABC	4/30/21	na	0.0197	0.0219	0.0303	0.00945	0.0209	< 0.00657	0.0177	0.0282	< 0.0219	< 0.00657	< 0.00657	< 0.00657	0.0154	< 0.00657	0.0332	0.0297	-	-	0.0197	< 0.0219	-
MTCA Method A Soil Cleanup Levels																							
Unrestricted Land Uses		0.1									5	-- <sup>n</sup>	--	--	--	--	--	--	--	--	--	--	
<div><div>a</div><div>Depth of sample in feet below surface grade (bsg)</div><div>b</div><div>Semi-volatile organic compounds (SVOCs) were analyzed using EPA method 8270D or 8270E-SIM. SVOCs not listed in the table were not detected in any samples and are listed in the laboratory report</div><div>c</div><div>Analytical results reported in parts per million (ppm)</div><div>d</div><div>(cPAHs) Carcinogenic Polycyclic Aromatic Hydrocarbons</div><div>e</div><div>Toxicity Equivalency Factors (TEFs) calculated under WAC 173-340-708(e) in accordance with Table 708-2 (in WAC 173-340-900). TEF is shown with less than (&lt;) symbol when no cPAHs were detected</div><div>f</div><div>( &lt; ) Analyte concentration not detected above the laboratory reporting limit, as listed</div><div>g</div><div>Bold value indicates analyte concentration exceeded laboratory reporting limit</div><div>h</div><div>Brown text indicates samples represent soil that was removed and disposed during excavation cleanup activities</div><div>i</div><div>Yellow shading indicates analyte concentration, one-half the laboratory reporting, or TEF-adjusted total cPAH concentration exceeds the MTCA Method A Cleanup Level.</div><div>j</div><div>( - ) Not analyzed</div><div>k</div><div>( ~ ) Sample depth estimated based on photographic log obtained from AEG Environmental Group, LLC.</div><div>l</div><div>Laboratory Qualifier: The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.</div><div>m</div><div>Green text indicates sample represents soil that is capped with concrete/asphalt</div><div>n</div><div>( -- ) Not Available (Washington Department of Ecology has not established a Method A Soil Cleanup Level for the respective analyte)</div></div>																							

**TABLE 4**  
**SOIL SAMPLE ANALYTICAL DATA - METALS**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	RCRA 8 Metals <sup>b</sup> (ppm) <sup>c</sup>									
			Arsenic	Barium	Cadmium	Chromium (Total)	Chromium III	Chromium VI	Lead	Mercury	Selenium	Silver
AOPC 1 - Metal Receiving Area Soil Samples												
AOPC1-01 <sup>d</sup>	4/5/17	< 1	63.1 <sup>e f</sup>	20.0	23.9	1,360	- <sup>g</sup>	-	1,350	< 1.00 <sup>h</sup>	3.79	14.7
AOPC1-02	4/5/17	< 1	< 5.00	8.45	< 1.00	54.9	-	-	2.06	< 1.00	< 1.00	< 1.00
AOPC1-03	4/5/17	< 1	< 5.00	140	< 1.00	43.3	-	-	25.1	< 1.00	< 1.00	< 1.00
AOPC1-04	4/5/17	< 1	15.7	82.9	3.19	169	-	-	57.8	< 1.00	1.12	< 1.00
AOPC1-05	4/5/17	< 1	< 5.00	86.4	1.96	36.1	-	-	50.4	< 1.00	< 1.00	< 1.00
SB-9:5	6/15/17	5	2.64	162	< 1.00	11.4	-	-	19.7	< 1.00	< 1.00	< 1.00
SB-10:5	6/15/17	5	1.96	132	< 1.00	38.0	-	-	5.96	< 1.00	< 1.00	< 1.00
SB-15:<1	4/3/18	< 1	-	-	< 1.00	-	-	-	-	-	-	-
HA-11:<1	4/4/18	< 1	2.00	-	< 1.00	-	-	-	57.3	-	-	-
HA-12:<1	4/4/18	< 1	5.74	-	< 1.00	-	-	-	60.4	-	-	-
HA-13:<1	4/4/18	< 1	2.56	-	< 1.00	-	-	-	40.6	-	-	-
AOPC1-1	10/29/18	~ 1.5 <sup>i</sup>	0.641	231	< 0.569	13.5	-	-	5.69	0.0119	< 2.28	< 1.14
AOPC1-2	10/29/18	~ 1.5	1.39	172	< 0.0700	56.4	37.2	19.2	15.0	0.0172	< 0.620	< 0.120
AOPC1-3	11/14/18	~ 1	3.40	227	< 0.633	17.2	-	-	5.12	0.00697	< 0.785	< 0.120
AOPC1-4	11/14/18	~ 1.5	2.10	179	0.087	20.2	-	-	8.14	0.0109	< 0.785	< 0.120
AOPC1-5	11/14/18	~ 1.5	4.21	179	0.447	60.4	-	-	128	0.0114	< 0.620	< 0.120
S18-0	4/29/21	0	5.73	-	< 1.19	-	-	-	82.7	-	-	-
S19-0	4/29/21	0	34.7	-	4.58	-	-	-	366	-	-	-
S19-1	5/26/21	1	5.12	-	1.04	27.5	-	-	163	-	-	-
S26-2.5 Dup	4/29/21	2.5	-	-	-	-	-	< 1.28	-	-	-	-
S26-2.5	4/29/21	2.5	-	-	-	-	-	< 1.36	-	-	-	-
S27-2.5	4/29/21	2.5	-	-	-	-	-	< 1.17	-	-	-	-
S36-1	4/30/21	1	5.00	-	-	-	-	-	-	-	-	-
S37-1	4/30/21	1	1.77	-	-	-	-	-	-	-	-	-
S38-1.5	4/30/21	1.5	5.16	-	< 1.18	-	-	-	-	-	-	-
S39-1.5	4/30/21	1.5	27.2	-	1.33	-	-	-	-	-	-	-
S39-2.5	5/26/21	2.5	3.29	-	-	-	-	-	-	-	-	-
S40-1.5	5/26/21	1.5	8.43	-	0.827	-	-	-	-	-	-	-
S41-2.5	5/26/21	2.5	6.71	-	-	-	-	-	-	-	-	-
S42-0	5/26/21	0	5.18	-	-	-	-	-	-	-	-	-
S43-0	5/26/21	0	48.5	-	3.03	84.2	-	-	389	-	-	-
S44-0	5/26/21	0	3.43	-	0.560	16.5	-	-	126	-	-	-
S54-0	6/7/21	0	23.2	-	1.21	-	-	-	253	-	-	-
S55-0	6/7/21	0	12.5	-	1.20	-	-	-	261	-	-	-
S61-0	6/7/21	0	8.18	-	1.21	-	-	-	324	-	-	-
S62-0	6/7/21	0	15.4	-	0.901	-	-	-	102	-	-	-
S63-0	6/7/21	0	18.1	-	6.69	-	-	-	176	-	-	-
S64-0	6/7/21	0	18.1	-	1.40	-	-	-	133	-	-	-
S65-0	6/8/21	0	3.61	-	0.456	-	-	-	51.4	-	-	-

TABLE 4 (continued)

**TABLE 4 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - METALS**  
 North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	RCRA 8 Metals <sup>b</sup> (ppm) <sup>c</sup>									
			Arsenic	Barium	Cadmium	Chromium (Total)	Chromium III	Chromium VI	Lead	Mercury	Selenium	Silver
AOPC 2 - EAF Area Soil Samples												
AOPC2-01	4/5/17	< 1	31.8	20.3	1.08	379	-	-	165	< 1.00	< 1.00	1.59
AOPC2-02	4/5/17	< 1	< 5.00	6.57	< 1.00	64.5	-	-	2.91	< 1.00	< 1.00	< 1.00
HA-15:<1	4/4/18	< 1	1.34	-	-	-	-	-	-	-	-	-
AOPC 3 - Foundry Building - Sands Soil Samples												
AOPC3-01	4/5/17	< 1	< 5.00	8.48	< 1.00	4.37	-	-	4.53	< 1.00	< 1.00	< 1.00
AOPC3-02	4/5/17	< 1	< 5.00	11.8	< 1.00	8.81	-	-	4.15	< 1.00	< 1.00	< 1.00
AOPC3-03	4/5/17	< 1	8.93	9.98	< 1.00	352	-	-	3.08	< 1.00	< 1.00	< 1.00
AOPC3-04	4/5/17	< 1	< 5.00	9.68	< 1.00	9.35	-	-	3.79	< 1.00	< 1.00	< 1.00
AOPC3-05	4/5/17	< 1	6.33	56.8	1.38	49.4	-	-	25.7	< 1.00	< 1.00	< 1.00
SB-14:1	4/3/18	1	-	-	< 1.00	-	-	-	-	-	-	-
AOPC 4 - Stormwater Drain - Main Yard Soil Samples												
AOPC4-01	4/5/17	< 1	< 5.00	36.4	< 1.00	52.0	-	-	6.54	< 1.00	< 1.00	< 1.00
AOPC4-02	4/5/17	< 1	< 5.00	34.7	< 1.00	76.2	-	-	20.9	< 1.00	< 1.00	< 1.00
SB-5:15	6/13/17	15	< 1.00	51.8	< 1.00	2.89	-	-	2.42	< 1.00	< 1.00	< 1.00
AOPC 5 - Southwest Compressor Soil Samples												
SB-2:15	6/12/17	15	1.04	52.6	< 1.00	4.27	-	-	2.61	< 1.00	< 1.00	< 1.00
SB-3:5	6/13/17	5	1.99	120	< 1.00	11.3	-	-	31.3	< 1.00	< 1.00	< 1.00
SB-1:20	6/12/17	20	5.04	80.7	< 1.00	8.60	-	-	9.07	< 1.00	< 1.00	< 1.00
S1-0	4/27/21	0	19.3	-	2.27	188	-	< 1.25	557	-	-	-
S4-0.5	4/27/21	0.5	< 1.64	< 4.10	< 1.64	< 8.20	-	-	3.72	< 0.0656	< 4.10	< 0.820
S13-0	4/28/21	0	-	-	2.54	-	-	-	365	-	-	-
S46-0	5/26/21	0	12.5	-	1.83	-	-	-	-	-	-	-
MW2-52	6/14/21	52	-	-	0.110	-	-	-	5.78	-	-	-
AOPC 7 - South Compressor Soil Samples												
SB-4:15	6/13/17	15	< 1.00	72.1	< 1.00	3.81	-	-	2.79	< 1.00	< 1.00	< 1.00
AOPC 8 - Maintenance Shop Building Soil Samples												
HA-1:1.0 <sup>k</sup>	6/13/17	1	3.82	104	< 1.00	14.4	-	-	23.7	< 1.00	< 1.00	12.4
HA-2:1.5	6/13/17	1.5	1.50	80.7	< 1.00	8.11	-	-	15.6	< 1.00	< 1.00	< 1.00
HA-3:0.8	6/13/17	0.8	6.31	30.9	< 1.00	38.3	-	-	36.1	< 1.00	< 1.00	< 1.00
HA-4:0.5	6/13/17	0.5	3.20	54.0	< 1.00	23.2	-	-	11.5	< 1.00	< 1.00	< 1.00
AOPC 9 - Welding Station Building Soil Samples												
AOPC9-01	4/5/17	< 1	6.76	12.8	< 1.00	306	-	-	4.58	< 1.00	< 1.00	< 1.00
AOPC9-02	4/5/17	< 1	26.1	1.21	< 1.00	2,360	-	-	< 1.00	< 1.00	< 1.00	< 1.00
AOPC9-03	4/5/17	< 1	22.2	10.4	1.17	2,880	-	-	7.24	< 1.00	1.04	< 1.00
SB-16:5	4/3/18	5	2.95	-	-	12.5	-	-	-	-	-	-
HA-16:<1	4/4/18	< 1	2.56	-	-	8.66 <sup>j</sup> / 10.2	-	-	-	-	-	-
HA-17:<1	4/4/18	< 1	1.33	-	-	8.93	-	-	-	-	-	-
HA-18:<1	4/4/18	< 1	12.5	-	-	57.8	-	-	-	-	-	-
HA-19:<1	4/4/18	< 1	8.61	-	-	39.6	-	-	-	-	-	-
HA-20:>1	4/4/18	< 1	16.5	-	-	23.6	-	-	-	-	-	-
S23-1	4/29/21	1	5.24	-	-	31.5	-	-	-	-	-	-
S24-0	6/8/21	0	-	-	-	235.0	-	1.96	-	-	-	-
S24-1	4/29/21	1	8.75	-	-	22.6	-	-	-	-	-	-

TABLE 4 (continued)



**TABLE 4 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - METALS**  
 North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	RCRA 8 Metals <sup>b</sup> (ppm) <sup>c</sup>									
			Arsenic	Barium	Cadmium	Chromium (Total)	Chromium III	Chromium VI	Lead	Mercury	Selenium	Silver
AOPC 9 - Welding Station Building Soil Samples (cont.)												
S67-0	8/12/21	0	42.3	-	-	73.0	-	-	-	-	-	-
S67-0 DUP	8/12/21	0	11.1	-	-	27.5	-	-	-	-	-	-
S68-0	8/12/21	0	6.54	-	-	51.6	-	-	-	-	-	-
AOPC 10 - Stormwater Retention Structure Soil Samples												
SB-7:5	6/14/17	5	1.90	127	< 1.00	10.4	-	-	11.2	< 1.00	< 1.00	< 1.00
AOPC 11 - Oil-Sand Storage and Bag House Soil Samples												
AOPC11-01	4/5/17	< 1	< 5.00	13.9	< 1.00	10.7	-	-	1.75	< 1.00	< 1.00	< 1.00
AOPC11-02	4/5/17	< 1	< 5.00	15.9	< 1.00	6.45	-	-	1.59	< 1.00	< 1.00	< 1.00
AOPC11-03	4/5/17	< 1	< 5.00	3.43	< 1.00	75.0	-	-	1.57	< 1.00	< 1.00	< 1.00
AOPC 12 - Northwest Petroleum Storage Soil Samples												
AOPC12-01	4/5/17	< 1	< 5.00	25.6	< 1.00	7.32	-	-	3.51	< 1.00	< 1.00	< 1.00
AOPC12-02	4/5/17	< 1	8.53	117	< 1.00	31.8	-	-	18.9	< 1.00	< 1.00	< 1.00
AOPC12-03	4/5/17	< 1	8.09	108	< 1.00	24.4	-	-	17.4	< 1.00	< 1.00	< 1.00
AOPC 13 - Foundry Waste Material Soil Samples												
AOPC13-01	4/5/17	< 1	< 5.00	10.0	< 1.00	107	-	-	4.38	< 1.00	< 1.00	< 1.00
AOPC13-02	4/5/17	< 1	< 5.00	10.6	< 1.00	21.0	-	-	2.99	< 1.00	< 1.00	< 1.00
AOPC13-03	4/5/17	< 1	12.7	40.3	< 1.00	92.9	-	-	115	< 1.00	1.15	< 1.00
AOPC13-04	4/5/17	< 1	6.35	49.7	< 1.00	76.4	-	-	36.6	< 1.00	< 1.00	< 1.00
SB-6:10	6/14/17	10	< 1.00	137	< 1.00	13.8	-	-	4.63	< 1.00	< 1.00	< 1.00
Stockpile Soil Samples												
STOCKPILE 1	10/29/18	na <sup>i</sup>	0.641	137	0.596	41.1	40.2	0.954	128	0.0505	< 0.620	< 0.120
STOCKPILE 2	10/29/18	na	0.938	49.4	< 0.0700	185	185	< 0.64	21.4	0.00724	< 0.620	< 0.120
STOCKPILE 1-A	4/30/21	na	6.21	78.8	< 1.04	25.3	-	-	100	0.131	< 2.61	< 0.522
STOCKPILE 1-B	4/30/21	na	2.92	25.5	< 1.05	98.0	-	-	7.14	< 0.0419	< 2.62	< 0.524
STOCKPILE 1-C	4/30/21	na	3.20	540	< 1.20	17.6	-	-	16.0	< 0.0480	< 3.00	< 0.600
STOCKPILE 2-ABC	4/30/21	na	7.47	74.7	1.14	155	-	-	198	0.0679	< 2.74	< 0.548
STOCKPILE 3-ABC	4/30/21	na	3.67	141	< 1.09	34.5	-	-	22.1	< 0.0438	< 2.74	< 0.547
MTCA Method A Soil Cleanup Levels												
Unrestricted Land Uses			20	-- <sup>m</sup>	2	2,000	19	250	2	--	--	--
a Depth of sample in feet below surface grade (bsg)												
b RCRA 8 Metals analyzed using EPA method 6010D, 6020A, 6020B, or 7471B												
c Analytical results reported in parts per million (ppm)												
d Brown text indicates samples represent soil that was removed and disposed during excavation cleanup activities												
e Bold value indicates analyte concentration exceeded laboratory reporting limit												
f Yellow shading indicates analyte concentration (or one-half the laboratory reporting limit) exceeds the MTCA Method A Cleanup Level. The exceeded level is also shaded.												
g ( - ) Not analyzed												
h ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed												
i ( ~ ) Sample depth estimated based on photographic log obtained from AEG Environmental Group, LLC.												
j Laboratory Qualifier: The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.												
k Green text indicates sample represents soil that is capped with concrete/asphalt												
l ( na ) Not applicable												
m ( -- ) Not Available (Washington Department of Ecology has not established a cleanup level for the respective analyte)												

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**TABLE 5**  
**SOIL SAMPLE ANALYTICAL DATA - PCBs**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	PCBs <sup>b</sup> (ppm) <sup>c</sup>									Total PCBs
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	
AOPC 1 - Metal Receiving Area Soil Samples												
AOPC1-02	4/5/17	<1	< 0.2 <sup>d</sup>	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	- <sup>e</sup>	ND <sup>f</sup>
AOPC1-03 <sup>g</sup>	4/5/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	3.2 <sup>h,i</sup>	< 0.2	-	3.2
AOPC1-04	4/5/17	<1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	ND
AOPC1-05	4/5/17	<1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	2.8	< 0.4	-	2.8
SB-9:5	6/15/17	5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
SB-10:5	6/15/17	5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
SB-15:<1	4/3/18	< 1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
HA-14:<1	4/4/18	< 1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
AOPC1-1	10/29/18	~ 1.5 <sup>j</sup>	< 0.0193	< 0.0193	< 0.0193	< 0.0193	< 0.0193	< 0.0193	< 0.0193	-	-	ND
AOPC1-2	10/29/18	~ 1.5	< 0.0214	< 0.0214	< 0.0214	< 0.0214	< 0.0214	< 0.0214	< 0.0214	-	-	ND
AOPC1-3	11/14/18	~ 1	< 0.00443	< 0.00680	< 0.00528	< 0.00403	< 0.00399	< 0.00597	< 0.00625	-	-	ND
AOPC1-4	11/14/18	~ 1.5	< 0.00415	< 0.00637	< 0.00495	< 0.00377	< 0.00374	< 0.00560	0.0233	-	-	0.0233
AOPC1-5	11/14/18	~ 1.5	< 0.00410	< 0.00628	< 0.00488	< 0.00372	< 0.00369	< 0.00552	< 0.00578	-	-	ND
S29-1	4/30/21	1	< 0.0408	< 0.0408	< 0.0408	< 0.0408	< 0.0204	< 0.0204	< 0.0204	-	< 0.0204	ND
S29-1 Dup	4/30/21	1	< 0.0414	< 0.0414	< 0.0414	< 0.0414	< 0.0207	< 0.0207	< 0.0207	-	< 0.0207	ND
S30-0.5	4/30/21	0.5	< 0.0388	< 0.0388	< 0.0388	< 0.0388	< 0.0194	0.0477	< 0.0194	-	< 0.0194	0.0477
S33-9	4/30/21	9	< 0.0374	< 0.0374	< 0.0374	< 0.0374	< 0.0187	< 0.0187	< 0.0187	-	< 0.0187	ND
S38-1.5	4/30/21	1.5	< 0.0400	< 0.0400	< 0.0400	< 0.0400	< 0.0200	< 0.0200	0.106	-	< 0.0200	0.106
AOPC 3 - Foundry Building - Sands Soil Samples												
SB-12:1	4/3/18	1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
SB-13:1	4/3/18	1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
SB-14:1	4/3/18	1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
AOPC 4 - Stormwater Drain - Main Yard Soil Samples												
AOPC4-01	4/5/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC4-02	4/5/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
SB-5:15	6/13/17	15	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
AOPC 5 - Southwest Compressor Soil Samples												
AOPC5-01	4/5/17	<1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	2	< 0.4	-	2.0
AOPC5-02	4/5/17	<1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	1.8	< 0.4	-	1.8
AOPC5-03	4/5/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	1.2	< 0.2	4.7	< 0.2	-	5.9
SB-2:15	6/12/17	15	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
SB-3:5	6/13/17	5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.17	< 0.02	-	0.17
SB-18:5	4/3/18	5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
HA-27:<1	4/4/18	< 1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.6	< 0.02	-	0.6
HA-28:<1	4/4/18	< 1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.96	< 0.02	-	0.96
TABLE 5 (Continued)												

TABLE 5 (Continued)

**TABLE 5 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - PCBs**  
 North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	PCBs <sup>b</sup> (ppm) <sup>c</sup>									Total PCBs
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	
AOPC 5 - Southwest Compressor Soil Samples (Cont.)												
HA-29:<1	4/4/18	< 1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.24	< 0.02	-	0.24
HA-30:<1	4/4/18	< 1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.079	< 0.02	-	0.079
AOPC5-1	10/29/18	~ 3	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	0.150	-	-	0.150
AOPC5-2	10/29/18	~ 2	< 0.0181	< 0.0181	< 0.0181	< 0.0181	< 0.0181	< 0.0181	0.154	-	-	0.154
AOPC5-3	10/29/18	~ 2	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	0.170	-	-	0.170
AOPC5-4	10/29/18	~ 3	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	0.0950	-	-	0.0950
S1-0	4/27/21	0	< 0.0426	< 0.0426	< 0.0426	< 0.0426	0.0213	0.322	< 0.0213	-	< 0.0213	0.322
AOPC 6 - Sothwest Drywell Soil Samples												
SB-1:20	6/12/17	20	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
AOPC 7 - South Compressor Soil Samples												
AOPC7-01	4/5/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC7-02	4/5/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
SB-4:15	6/13/17	15	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
AOPC7-1	10/29/18	~ 1.5	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0186	-	-	ND
AOPC7-2	10/29/18	~ 1.5	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	-	-	ND
AOPC 8 - Maintenance Shop Building Soil Samples												
HA-1:1.0 <sup>k</sup>	6/13/17	1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
HA-2:1.5	6/13/17	1.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
HA-3:0.8	6/13/17	0.8	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.020	< 0.02	-	0.020
HA-4:0.5	6/13/17	0.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
AOPC 10 - Stormwater Retention Structure Soil Samples												
SB-7:5	6/14/17	5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC 11 - Oil-Sand Storage and Bag House Soil Samples												
AOPC11-01	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC11-02	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC 12 - Northwest Petroleum Storage Soil Samples												
AOPC12-01	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC12-02	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC12-03	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC 13 - Foundry Waste Material Soil Samples												
AOPC13-01	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC13-02	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC13-03	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC13-04	4/6/17	<1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
SB-6:10	6/14/17	10	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC 14 - North Compressor Soil Samples												
SB-8:5	6/15/17	5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	ND
AOPC14-1	10/29/18	0	< 0.0180	< 0.0180	< 0.0180	< 0.0180	< 0.0180	< 0.0180	0.0135	-	-	0.0135
TABLE 5 (Continued)												

**TABLE 5 (Continued)**  
**SOIL SAMPLE ANALYTICAL DATA - PCBs**  
 North Star Casteel Property

Sample ID	Sample Date	Sample Depth (feet bsg) <sup>a</sup>	PCBs <sup>b</sup> (ppm) <sup>c</sup>									Total PCBs
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	
AOPC 15 - Clack County Transformer Compound Soil Samples												
HA-5:1.0	6/13/17	1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
HA-6:1.0	6/13/17	1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
HA-7:1.0	6/13/17	1	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	ND
Stockpile Soil Samples												
STOCKPILE-1	10/29/18	na <sup>i</sup>	< 0.0184	< 0.0184	< 0.0184	< 0.0184	< 0.0184	< 0.0184	0.633	-	-	0.633
STOCKPILE-2	10/29/18	na	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	< 0.0188	0.0276	-	-	0.0276
STOCKPILE 1-A	4/30/21	na	< 0.0355	< 0.0355	< 0.0355	< 0.0355	< 0.0178	< 0.0178	0.286	-	< 0.0178	0.286
STOCKPILE 1-B	4/30/21	na	< 0.0356	< 0.0356	< 0.0356	< 0.0356	< 0.0178	< 0.0178	< 0.0178	-	< 0.0178	ND
STOCKPILE 1-C	4/30/21	na	< 0.0408	< 0.0408	< 0.0408	< 0.0408	< 0.0204	< 0.0204	< 0.0204	-	< 0.0204	ND
STOCKPILE 2-ABC	4/30/21	na	< 0.0372	< 0.0372	< 0.0372	< 0.0372	0.118	< 0.0186	0.0839	-	< 0.0186	0.2019
STOCKPILE 3-ABC	4/30/21	na	< 0.0372	< 0.0372	< 0.0372	< 0.0372	< 0.0186	< 0.0186	0.0408	-	< 0.0186	0.0408
MTCA Method A Soil Cleanup Levels												
Unrestricted Land Uses			1									
<div>a Depth of sample in feet below surface grade (bsg)</div> <div>b Polychlorinated Biphenyls (PCBs) analyzed using EPA method 8082A</div> <div>c Analytical results reported in parts per million (ppm)</div> <div>d ( &lt; ) Analyte concentration not detected above the laboratory reporting limit, as listed</div> <div>e ( - ) Not analyzed</div> <div>f ( ND ) No PCBs were detected</div> <div>g <b>Brown text</b> indicates samples represent soil that was removed and disposed during excavation cleanup activities</div> <div>h <b>Bold value</b> indicates analyte concentration exceeded laboratory reporting limit</div> <div>i <b>Yellow shading</b> indicates analyte concentration (or one-half the laboratory reporting limit) exceeds an RBC. The exceeded level is also shaded</div> <div>j ( ~ ) Sample depth estimated based on photographic log obtained from AEG Environmental Group, LLC.</div> <div>k <b>Green text</b> indicates sample represents soil that is capped with concrete/asphalt</div> <div>l ( na ) Not applicable</div>												

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**TABLE 6**  
**WIPE SAMPLE ANALYTICAL DATA - PCBs**

North Star Casteel Property  
 1200 West 13th Street  
 Vancouver, WA 98660

Sample ID	Sample Date	PCBs <sup>a</sup> (µg/wipe) <sup>b</sup>								Total PCBs
		Aroclor 1221	Aroclor 1232	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	
AOPC 5 - Southwest Compressor										
AOPC5-04 <sup>c</sup>	4/5/17	< 1 <sup>d</sup>	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND <sup>e</sup>
AOPC 7 - South Compressor										
AOPC7-03	4/5/17	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
AOPC 14 - North Compressor										
AOPC14-03	4/6/17	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	ND
<sup>a</sup> Polychlorinated Biphenyls (PCBs) analyzed using EPA method 8082A										
<sup>b</sup> Analytical results reported in micrograms per wipe (µg/wipe), which were each 100 square centimeters (cm <sup>2</sup> )										
<sup>c</sup> Brown text indicates samples represent soil that was removed and disposed during excavation cleanup activities										
<sup>d</sup> ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed										
<sup>e</sup> ( ND ) No PCBs were detected										

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# TABLE 7

## WATER SAMPLE ANALYTICAL DATA - PHCs and VOCs

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	PHCs <sup>a</sup> (ppb) <sup>b</sup>			VOCs <sup>c</sup> (ppb)													
					BTEX <sup>d</sup> VOCs					Detected Additional VOCs								
		Gasoline	Diesel	Oil	Acetone	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloroform	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl chloride	
AOPC 1 - Metals Receiving Area																		
SB-9:GW	6/15/17	< 100 <sup>e</sup>	120 <sup>f,g</sup>	< 400	- <sup>h</sup>	< 0.35	< 1	< 1	< 3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	
SB-10:GW	6/15/17	< 100	86 <sup>g</sup>	< 250	-	< 0.35	< 1	< 1	< 3	1.4	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	
AOPC 4 - Stormwater Drain - Main Yard																		
SB-5:GW	6/13/17	< 100	< 60	< 300	-	< 0.35	< 1	< 1	< 3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	
AOPC 5 - Southwest Compressor																		
SB-2:GW	6/12/17	< 100	< 50	< 250	-	< 0.35	< 1	< 1	< 3	< 1	< 1	< 1	3.2	< 1	< 1	< 1	< 0.2	
MW-2	8/27/21	< 31.6	< 66.7	< 83.3	2.36 <sup>i</sup>	< 0.0160	< 0.0500 <sup>j</sup>	< 0.0212	< 0.191	0.0540 <sup>i</sup>	< 0.0276	< 0.0572	1.36	0.0430	< 0.0464	< 0.0432	< 0.0273	
MW-2 DUP	8/27/21	< 31.6	< 66.7	< 83.3	1.96 <sup>i</sup>	< 0.0160	< 0.0500 <sup>j</sup>	< 0.0212	< 0.191	0.0560 <sup>i</sup>	< 0.0276	< 0.0572	1.50	< 0.0160	< 0.0464	< 0.0432	< 0.0273	
AOPC 6 - Southwest Drywell																		
SB-1:GW	6/12/17	< 100	79 <sup>g</sup>	< 300	-	< 0.35	< 1	< 1	< 3	< 1	< 1	< 1	1.6	< 1	< 1	< 1	< 0.2	
AOPC 7 - South Compressor																		
SB-4:GW	6/13/17	< 100	< 60	< 300	-	< 0.35	< 1	< 1	< 3	< 1	< 1	< 1	1.7	< 1	< 1	< 1	< 0.2	
AOPC 10 - Stormwater Retention Structure																		
SB-7:GW	6/14/17	< 100	78 <sup>g</sup>	< 350	-	< 0.35	< 1	< 1	< 3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	
AOPC 13 - Foundry Waste Material																		
SB-6:GW	6/14/17	< 100	< 60	< 300	-	< 0.35	< 1	< 1	< 3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	
UST Liquid																		
UST-H2O	5/26/21	< 31.6	5,330	4,290	< 0.548	< 0.0160	< 0.0500	< 0.0212	< 0.191	< 0.0166	< 0.0276	< 0.0572	< 0.0280	< 0.0160	< 0.0464	< 0.0432	< 0.0275	
Equipment Blanks																		
EB-1	4/27/21	< 100	< 200	< 250	3.26	< 0.0400	< 0.200	< 0.100	< 0.260	< 0.100	< 0.100	< 0.200	< 0.100	< 0.0400	< 0.200	< 0.200	< 0.100	
EB-2	4/28/21	-	< 200	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
TABLE 7 (Continued)																		

TABLE 7 (Continued)

**TABLE 7 (Continued)**  
**WATER SAMPLE ANALYTICAL DATA - PHCs AND VOCs**  
 North Star Casteel Property

Sample ID	Sample Date	PHCs <sup>a</sup> (ppb) <sup>b</sup>			VOCs <sup>c</sup> (ppb)													
					BTEX <sup>d</sup> VOCs					Detected Additional VOCs								
		Gasoline	Diesel	Oil	Acetone	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloroform	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl chloride	
Equipment Blanks (cont.)																		
EB-3	4/29/21	-	< 100	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
EB-4	4/30/21	-	< 200	< 250	-	-	-	-	-	-	-	-	-	-	-	-	-	
EB-5	5/26/21	-	47.2	< 83.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
EB-6	6/7/21	-	< 33.3	< 83.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
EB-9	8/12/21	-	< 66.7	< 83.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
EB-10	8/27/21	< 31.6	< 66.7	< 83.3	5.34 <sup>i</sup>	< 0.0160	< 0.0500 <sup>j</sup>	< 0.0212	< 0.191	< 0.0166	< 0.0276	< 0.0572	< 0.0280	< 0.0160	< 0.0464	< 0.0460	< 0.0273	
Trip Blanks																		
Trip Blank	4/27/21	-	-	-	2.16	< 0.0400	< 0.200	< 0.100	< 0.260	< 0.100	< 0.100	< 0.200	< 0.100	< 0.0400	< 0.200	< 0.200	< 0.100	
	4/29/21	-	-	-	< 10.0	< 0.0400	< 0.200	< 0.100	< 0.260	< 0.100	< 0.100	< 0.200	< 0.100	< 0.0400	< 0.200	< 0.200	< 0.100	
	4/30/21	-	-	-	1.64	< 0.0400	< 0.200	< 0.100	< 0.260	< 0.100	< 0.100	< 0.200	< 0.100	< 0.0400	< 0.200	< 0.200	< 0.100	
	5/26/21	-	-	-	2.44	< 0.0160	< 0.0500	< 0.0212	< 0.191	< 0.0166	< 0.0276	< 0.0572	< 0.0280	< 0.0160	< 0.0464	< 0.0432	< 0.0273	
	6/14/21	-	-	-	1.45	< 0.160	< 0.500	< 0.0212	< 0.191	< 0.0166	< 0.0276	< 0.0572	< 0.0280	< 0.0160	< 0.0464	< 0.0432	< 0.0273	
	8/27/21	-	-	-	< 0.548	< 0.0160	< 0.0500 <sup>j</sup>	< 0.0212	< 0.191	< 0.0166	< 0.0276	< 0.0572	< 0.0280	< 0.0160	< 0.0464	< 0.0432	< 0.0273	
MTCA Method A Groundwater Cleanup Levels																		
Groundwater	800 / 1,000 <sup>j</sup>	500	500	-- <sup>k</sup>	5	1,000	700	1,000	--	--	--	5	5	--	--	0.2		
<sup>a</sup> Petroleum hydrocarbons (PHCs) were analyzed using NWTPH methods Gx (gasoline) and Dx (diesel and oil)																		
<sup>b</sup> Analytical results reported in parts per billion (ppb)																		
<sup>c</sup> Volatile organic compounds (VOCs) were analyzed using EPA method 8260C. VOCs not listed in the table were not detected in any samples and are listed in the laboratory report																		
<sup>d</sup> Benzene, toluene, ethylbenzene, and xylenes (BTEX)																		
<sup>e</sup> ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed																		
<sup>f</sup> Bold value indicates analyte concentration exceeded laboratory reporting limit																		
<sup>g</sup> The sample chromatographic pattern does not resemble the fuel standard used for quantitation																		
<sup>h</sup> ( - ) Not analyzed																		
<sup>i</sup> The identification of the analyte is acceptable; the reported value is an estimate																		
<sup>j</sup> The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.																		
<sup>k</sup> MTCA Method A Groundwater Cleanup Level is 800 µg/kg when benzene is present in the groundwater and 1,000µg/kg when benzene is not detected.																		
<sup>l</sup> ( - - ) Not Available (Washington Department of Ecology has not established a Method A Cleanup Level for the respective analyte)																		

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**TABLE 8**  
**WATER SAMPLE ANALYTICAL DATA - SVOCs**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	SVOCs <sup>a</sup> (ppb) <sup>b</sup>																	
		Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) <sup>c</sup>								Detected Additional SVOCs									
		Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	TEF-Adjusted Total cPAHs <sup>d</sup>	Naphthalene	Benzoic acid	Acenaphthylene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Bis(2ethylhexyl)phthalate	Benzo(g,h,i)perylene
AOPC 1 - Metals Receiving Area																			
SB-9:GW	6/15/17	0.15 <sup>e,f</sup>	0.20	0.23	0.070	0.19	< 0.03 <sup>h</sup>	0.10	0.2134	< 0.03	< 10	< 0.03	0.064	0.29	0.069	0.43	0.37	< 3.2	0.086
SB-10:GW	6/15/17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02265	< 0.03	< 10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 3.2	< 0.03
MW-1:water	4/5/18	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.0453	- <sup>i</sup>	-	-	-	-	-	-	-	-	-
AOPC 4 - Stormwater Drain - Main Yard																			
SB-5:GW	6/13/17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02265	< 0.03	< 10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 3.2	< 0.03
AOPC 5 - Southwest Compressor																			
SB-2:GW	6/12/17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02265	0.052	< 10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 3.2	< 0.03
MW-2	8/27/21	< 0.0184	< 0.0203	< 0.0168	< 0.0202	< 0.0179	< 0.0160 <sup>j</sup>	< 0.0158	< 0.0275	< 0.0197	-	< 0.0171	< 0.0169	< 0.0180	< 0.0190	< 0.0270	< 0.0169	-	< 0.0184 <sup>j</sup>
MW-2 Dup	8/27/21	< 0.0184	< 0.0203	< 0.0168	< 0.0202	< 0.0179	< 0.0160 <sup>j</sup>	< 0.0158	< 0.0303	< 0.0197	-	< 0.0171	< 0.0169	< 0.0180	< 0.0190	< 0.0270	< 0.0169	-	< 0.0184 <sup>j</sup>
AOPC 6 - Southwest Drywell																			
SB-1:GW	6/12/17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02265	0.060	< 10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 3.2	< 0.03
AOPC 7 - South Compressor																			
SB-4:GW	6/13/17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02265	< 0.03	< 10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 3.2	< 0.03
AOPC 10 - Stormwater Retention Structure																			
SB-7:GW	6/14/17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02265	< 0.03	< 10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 3.2	< 0.03
AOPC 13 - Foundry Waste Material																			
SB-6:GW	6/14/17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02265	< 0.03	< 10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 3.2	< 0.03
TABLE 8 (Continued)																			



**TABLE 8 (Continued)**  
**WATER SAMPLE ANALYTICAL DATA - SVOCs**  
North Star Casteel Property

Sample ID	Sample Date	SVOCs <sup>a</sup> (ppb) <sup>b</sup>																	
		Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) <sup>c</sup>								Detected Additional SVOCs									
		Benzo(a)pyrene	Benz(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	TEF-Adjusted Total cPAHs <sup>d</sup>	Naphthalene	Benzoic acid	Acenaphthylene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Bis(2ethylhexyl)phthalate	Benzo(g,h,i)perylene
UST Liquid																			
UST-H20	5/26/21	< 0.0184	< 0.0203	< 0.0168	< 0.0202	< 0.0179	< 0.0160	< 0.0158	< 0.0378	< 0.0197	-	< 0.0171	< 0.0169	< 0.0180	< 0.0190	< 0.0270	< 0.0169	-	< 0.0184
AOPC 13 - Foundry Waste Material																			
EB-1	4/27/21	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0378	< 0.250	-	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.100	< 0.0500	-	< 0.0500
EB-2	4/28/21	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0378	< 0.250	-	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.100	< 0.0500	-	< 0.0500
EB-4	4/30/21	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0378	< 0.250	-	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.100	< 0.0500	-	< 0.0500
EB-5	5/26/21	< 0.0184	< 0.0203	< 0.0168	< 0.0202	< 0.0179	< 0.0160	< 0.0158	< 0.0378	< 0.0917	-	< 0.0171	< 0.0169	< 0.0180	< 0.0190	< 0.0270	< 0.0169	-	< 0.0184
EB-6	6/7/21	< 0.0184	< 0.0203	< 0.0168	< 0.0202	< 0.0179	< 0.0160	< 0.0158	< 0.0303	< 0.0917	-	< 0.0171	< 0.0169	< 0.0180	< 0.0190	< 0.0270	< 0.0169	-	< 0.0184
EB-8	6/24/21	< 0.0184	< 0.0203	< 0.0168	< 0.0202	< 0.0179	< 0.0160	< 0.0158	< 0.0303	< 0.0917	-	< 0.0171	< 0.0169	< 0.0180	< 0.0190	< 0.0270	< 0.0169	-	< 0.0184
EB-10	8/27/21	< 0.0184	< 0.0203	< 0.0168	< 0.0202	< 0.0179	< 0.0160 <sup>j</sup>	< 0.0158	< 0.0303	< 0.0197	-	< 0.0171	< 0.0169	< 0.0180	< 0.0190	< 0.0270	< 0.0169	-	< 0.0184 <sup>j</sup>
MTCA Method A Groundwater Cleanup Levels																			
Groundwater	0.1								160	-- <sup>k</sup>	--	--	--	--	--	--	--	--	--
a Semi-volatile organic compounds (SVOCs) were analyzed using EPA method 8270D or 8270E SIM. SVOCs not listed in the table were not detected in any samples and are listed in the laboratory report																			
b Analytical results reported in parts per billion (ppb)																			
c (cPAHs) Carcinogenic Polycyclic Aromatic Hydrocarbons																			
d Toxicity Equivalency Factors (TEFs) calculated under WAC 173-340-708(e) in accordance with Table 708-2 (in WAC 173-340-900). TEF is shown with less than (<) symbol when no cPAHs were detected																			
e Bold value indicates analyte concentration exceeded laboratory reporting limit																			
f Yellow shading indicates analyte concentration, one-half the laboratory reporting limit, or TEF-adjusted total cPAH concentration exceeds the MTCA Method A Cleanup Level.																			
g The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.																			
h (<) Analyte concentration not detected above the laboratory reporting limit, as listed																			
i (-) Not analyzed																			
j The identification of the analyte is acceptable;the reported value is an estimate																			
k (-) Not Available (Washington Department of Ecology has not established a Method A Soil Cleanup Level for the respective analyte)																			

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**TABLE 9**  
**WATER SAMPLE ANALYTICAL DATA - METALS**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	RCRA 8 Metals <sup>a</sup> (ppb) <sup>b</sup>							
		Arsenic	Barium	Cadmium	Chromium (Total)	Lead	Mercury	Selenium	Silver
AOPC 1 - Metals Receiving Area									
SB-9:GW	6/15/17	< 1 <sup>c</sup>	27.3 <sup>d</sup>	< 1	< 1	< 1	< 1	< 1	< 1
SB-10:GW	6/15/17	< 1	20.0	< 1	< 1	< 1	< 1	< 1	< 1
AOPC 4 - Stormwater Drain - Main Yard									
SB-5:GW	6/13/17	< 1	24.8	< 1	< 1	< 1	< 1	< 1	< 1
AOPC 5 - Southwest Compressor									
SB-2:GW	6/12/17	< 1	30.7	< 1	< 1	< 1	< 1	< 1	< 1
MW-2	8/27/21	- <sup>e</sup>	-	< 0.150	-	< 0.849	-	-	-
MW-2 Dup	8/27/21	-	-	< 0.150	-	1.11 <sup>f</sup>	-	-	-
EB-10	8/27/21	-	-	< 0.150	-	< 0.849	-	-	-
AOPC 6 - Southwest Drywell									
SB-1:GW	6/12/17	< 1	20.3	< 1	< 1	< 1	< 1	< 1	< 1
AOPC 7 - South Compressor									
SB-4:GW	6/13/17	< 1	18.6	< 1	< 1	< 1	< 1	< 1	< 1
AOPC 10 - Stormwater Retention Structure									
SB-7:GW	6/14/17	< 1	23.1	< 1	< 1	< 1	< 1	< 1	< 1
AOPC 13 - Foundry Waste Material									
SB-6:GW	6/14/17	< 1	11.9	< 1	< 1	< 1	< 1	< 1	< 1
UST Liquid									
UST-H2O	5/26/21	0.356	26.1	< 0.215	2.97	5.57	< 0.100	< 0.300	< 0.0700
Equipment Blanks									
EB-1	4/27/21	< 2.00	-	< 1.00	< 2.00	< 2.00	-	-	-
EB-3	4/29/21	< 2.00	-	< 1.00	< 2.00	< 2.00	-	-	-
EB-5	5/26/21	< 0.180	-	< 0.150	< 0.124	< 0.849	-	-	-
EB-6	6/7/21	< 0.180	-	< 0.150	-	< 0.849	-	-	-
EB-7	6/8/21	-	-	-	< 1.24	-	-	-	-
EB-9	8/12/21	< 0.180	-	-	< 1.24	-	-	-	-
MTCA Method A Groundwater Cleanup Levels									
Groundwater		5	-- <sup>g</sup>	5	--	15	2	--	--
a Resource Conservation and Recovery Act (RCRA) 8 Metals analyzed using EPA method 6020A or 6020B									
b Analytical results reported in parts per billion (ppb)									
c ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed									
d Bold value indicates analyte concentration exceeded laboratory reporting limit. The exceeded level is also shaded									
e ( - ) Not analyzed									
f The identification of the analyte is acceptable; values are outside upper control limits									
g ( -- ) Not Available (Washington Department of Ecology has not established a cleanup level for the respective analyte)									

S:\Project Files\North Star Casteel\Tables\0-CURRENT WORKING TABLES\T9 GW - RCRA 8 Metals.xlsx\Metals

**TABLE 10**  
**WATER SAMPLE ANALYTICAL DATA - PCBs**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Sample ID	Sample Date	PCBs <sup>a</sup> (ppb) <sup>b</sup>								Total PCBs
		Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	
AOPC 1 - Metals Receiving Area										
SB-9:GW	6/15/2017	< 0.1 <sup>c</sup>	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND <sup>d</sup>
SB-10:GW	6/15/2017	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND
AOPC 4 - Stormwater Drain - Main Yard										
SB-5:GW	6/13/2017	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND
AOPC 5 - Southwest Compressor										
SB-2:GW	6/12/2017	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND
MW-2	8/27/2021	< 0.270	< 0.270	< 0.270	< 0.270	< 0.173	< 0.173	< 0.173	- <sup>e</sup>	< 0.500
MW-2 Dup	8/27/2021	< 0.270	< 0.270	< 0.270	< 0.270	< 0.173	< 0.173	< 0.173	-	< 0.500
AOPC 6 - Southwest Drywell										
SB-1:GW	6/12/2017	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND
AOPC 7 - South Compressor										
SB-4:GW	6/13/2017	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND
AOPC 10 - Stormwater Retention Structure										
SB-7:GW	6/14/2017	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND
AOPC 13 - Foundry Waste Material										
SB-6:GW	6/14/2017	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	ND
UST Liquid										
UST-H2O	6/8/2021	< 0.270	< 0.270	< 0.270	< 0.270	< 0.173	< 0.173	< 0.173	< 0.173	ND
Equipment Blanks										
EB-4	4/30/21	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	-	ND
EB-10	8/27/2021	< 0.270	< 0.270	< 0.270	< 0.270	< 0.173	< 0.173	< 0.173	-	< 0.500
MTCA Method A Groundwater Cleanup Levels										
Groundwater		0.1								
<sup>a</sup> Polychlorinated Biphenyls (PCBs) analyzed using EPA method 8082A										
<sup>b</sup> Analytical results reported in parts per billion (ppb)										
<sup>c</sup> ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed										
<sup>d</sup> ( ND ) No PCBs were detected										
<sup>e</sup> ( - ) Not analyzed										

S:\Project Files\North Star Casteel\Tables\{0}-CURRENT WORKING TABLES\{T10 GW - PCBs.xlsx}2017 PCBs

TABLE 11 SUBSLAB VAPOR SAMPLE ANALYTICAL DATA North Star Casteel 1200 West 13th Street Vancouver, WA 98660																			
Sample ID	Sample Date	Petroleum Hydrocarbons <sup>a</sup> (µg/m3) <sup>b</sup>				Volitile Organic Compounds <sup>c</sup> (µg/m3)							Major Gases <sup>d</sup> (Percent and BTU/ft <sup>3</sup> )						
		Hydrocarbon Fractions			Combined Total Fractions (Total TPH)	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Naphthalene	2-Propanol	Carbon Dioxide	Carbon Monoxide	Methane	Nitrogen	Oxygen	Hydrogen	BTU
		Aliphatics EC5-8	Aliphatics EC9-12	Aromatics EC9-10															
Subslab Vapor Samples																			
SV-1	8/27/21	1,590 <sup>e,f</sup>	3,450 <sup>f</sup>	244 <sup>f</sup>	5,284 <sup>f,g</sup>	1.16	6.08	< 6.95 <sup>h</sup>	< 6.95	< 1.74	6.70	187	0.127	< 0.0500	< 0.0500	77.0	22.9	< 0.0500	< 0.0500
SV-2	8/27/21	987 <sup>h</sup>	2,340 <sup>h</sup>	42.5 <sup>h</sup>	3,369.5	1.80	< 3.77	< 17.4	< 17.4	< 4.34	1.02	83.7	0.285	< 0.0500	< 0.0500	77.1	22.6	< 0.0500	< 0.0500
Leak Test Shroud Samples																			
SV-1 Shroud	8/27/21	- <sup>i</sup>	-	-	-	-	-	-	-	-	-	25,000	-	-	-	-	-	-	-
SV-2 Shroud	8/27/21	-	-	-	-	-	-	-	-	-	-	57,000	-	-	-	-	-	-	-
MTCA Method B Screening Levels																			
Subslab Vapor		-	-	-	4,700	11	76,000	15,000	1,500		2.5	-	-	-	-	-	-	-	-
<sup>a</sup> Petroleum fractions were analyzed using EPA method TO-15 <sup>b</sup> Analytical results listed in micrograms per cubic meter (µg/m3) <sup>c</sup> Volatile organic compounds (VOCs) were analyzed using EPA method TO-15 <sup>d</sup> Major gases were analyzed using EPA method 3C <sup>e</sup> Bold value indicates analyte concentration exceeded laboratory reporting limit <sup>f</sup> Surrogate recovery was above the upper limit indicating data may be biased high <sup>g</sup> Yellow shading indicates analyte concentration, one-half the laboratory reporting limit, exceeds the MTCA Method B Cleanup Level. <sup>h</sup> ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed																			

**TABLE 12**  
**SUBSLAB VAPOR TOTAL TPH NON-CARCINOGENIC CLEANUP LEVELS**

North Star Casteel  
 1200 West 13th Street  
 Vancouver, WA 98660

Sample ID	Sample Date	Petroleum Fraction or Compound <sup>a</sup>	Sample Concentration (µg/m3) <sup>b</sup>	Fraction of Total Concentration (F <sub>i</sub> ) <sup>c</sup>	CUL <sub>i</sub> <sup>d</sup> (µg/m3)	(F <sub>i</sub> ) / CUL <sub>i</sub> (1 / µg/m3)
SV-1	8/27/21	<b>Non-Carcinogenic Measurements and Calculations</b>				
		Aliphatics EC 5-8	1,590	0.3001	9.07E+04	3.31E-06
		Aliphatics EC 9-12	3,450	0.6512	4.53E+03	1.44E-04
		Aromatics EC 9-10	244	0.0461	6.07E+03	7.59E-06
		Benzene	1.16	0.0002	4.57E+02	4.79E-07
		Toluene	6.08	0.0011	7.47E+04	1.54E-08
		Ethylbenzene	< 6.95 <sup>e</sup>	0.0000	1.53E+04	-- <sup>f</sup>
		Xylenes	< 8.69	0.0000	1.55E+03	--
		Naphthalene	6.7	0.0013	4.60E+01	2.75E-05
		Total TPH	5,298	1.0	5,478.4 <sup>g</sup>	--

**a** Petroleum fractions/compounds were analyzed using EPA method TO-15

**b** Analytical results and CULs listed in micrograms per cubic meter (µg/m3)

**c** ( F<sub>i</sub> ) Fraction by weight of petroleum component (unitless)

**d** ( CUL<sub>i</sub> ) Subslab vapor cleanup level for petroleum component

**e** ( < ) Analyte not detected above the laboratory reporting limit, as listed

**f** ( -- ) Not applicable

**g** Total TPH Non-Carcinogenic CUL calculated based on the following equation:  $CUL = 1 / \sum (F_i / CUL_i)$

## Appendix A

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### Previous Report Links

***Phase I Environmental Site Assessment Report*** (Environmental Partners Inc. (EPI)), dated October 31, 2017

([https://drive.google.com/file/d/1u4qm0z3GHnN\\_kybsMVXAZYaftodNd\\_70/view?usp=sharing](https://drive.google.com/file/d/1u4qm0z3GHnN_kybsMVXAZYaftodNd_70/view?usp=sharing))

***Phase II Environmental Site Assessment Report*** (EPI) dated October 31, 2017

([https://drive.google.com/file/d/1aDEHXOTgtk1nrkxq\\_rqlgDKV6-dQIVeY/view?usp=sharing](https://drive.google.com/file/d/1aDEHXOTgtk1nrkxq_rqlgDKV6-dQIVeY/view?usp=sharing))

***Updated Subsurface Investigation Letter Report*** (EPI), dated May 3, 2018

(<https://drive.google.com/file/d/1vsCE-sudTvg5Q80QHVMEqWQJyrr8TwqX/view?usp=sharing>)

***Summary of Selected Confirmational Soil Sampling***, Associated Environmental Group, LLC (AEG), dated December 5, 2018

(<https://drive.google.com/file/d/1kvZ1fSuQKJjhokW-77-dde62WgTKYhF4/view?usp=sharing>)

**Wasco County Landfill Disposal Receipts**, November 27-28, 2018

([https://drive.google.com/file/d/1PRq\\_IEWDNNWM39W4drT6KbkeZ20IHFzG/view?usp=sharing](https://drive.google.com/file/d/1PRq_IEWDNNWM39W4drT6KbkeZ20IHFzG/view?usp=sharing))

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## Appendix B

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Field Methods and Procedures

## FIELD METHODS AND PROCEDURES

The following presents the general methods and procedures that are utilized to complete field activities. These activities include: advancing borings, soil excavation, groundwater level monitoring and surveying, installing temporary or monitoring wells, and collecting of soil and groundwater samples for laboratory analyses. Soil and groundwater samples are collected, preserved, and transported for analysis in general accordance with the Washington Department of Ecology (Ecology) methodology as presented under Chapter 173-340 Washington Administrative Code (WAC). If not specified by current Ecology regulations, sampling and analytical methods are implemented in general accordance with EPA protocol and/or commonly accepted industry standards for this time and place.

### Utility Locating

Utilities, including overhead and underground, are identified and located prior to conducting work at the site. For overhead utilities, a safe minimum working distance is maintained with all sampling equipment dependant on the activity. For drilling or direct push equipment, a minimum 15-20 foot buffer is recommended. For other work such as excavation by backhoe, hand augering, hand probing, etc., a minimum distance is maintained such that the sampling equipment cannot come in contact with the utilities.

Underground utilities are located by contacting Utility Notification Center (UNC) for all underground sampling, excavation, and all other activities performed below the surface. The notification is performed at least 48 hours in advance of the work or as required by local laws and regulations to allow sufficient time for marking of the affected utilities. When warranted, MSBA will arrange on-site meetings with the contracted locators for the utilities to resolve any issues of proximity to the planned work.

In addition to contacting the UNC, MSBA may also perform one or more of the following activities intended to help prevent incidental contact with underground utilities during subsurface activities.

- 1) **Field Observation:** MSBA observes the site and surroundings for any signs of overhead and/or underground utilities.
- 2) **Private Utility Locate:** MSBA may contract with private utility locators if warranted to provide additional clarification of potential utilities and their locations.
- 3) **Hand Clearing:** MSBA may clear up to a maximum of the first five feet of subsurface soil for potential underground utilities by hand digging, hand augering, or air knifing.



## **Grab Soil Sampling**

Grab soil samples are collected by hand or using a decontaminated shovel or hand trowel directly from surface/shallow soil or the sidewalls/base of a test pit or excavation area up to a depth of 4 feet below surface grade (bsg). At depths deeper than 4 feet bsg, soil samples are collected from an excavator bucket. The excavator bucket may be decontaminated prior to sampling. Just prior to collecting each sample, approximately 3 inches of soil is scraped away from the sampling surface. Soil samples are collected with a minimum amount of disturbance.

Soil samples are placed into laboratory provided wide-mouth glass jars, leaving as little headspace as possible. Soil samples are also collected in 40 milliliter (ml) volatile organic analysis (VOA) EPA method 5035 vials with a preservative. The jar is immediately sealed firmly with a Teflon-lined screw cap. After the samples are properly sealed, they are placed in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until preparation for analysis by the laboratory. Soil samples are analyzed within the laboratory designated hold times.

Disposable latex gloves are worn by the sampler and discarded after each sample. Sampling equipment is thoroughly cleaned and decontaminated between sampling events to help eliminate the potential for cross-contamination between samples. Each sample is clearly labeled with a unique name. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any conditions which may have affected the sample integrity.

## **Drilling Method and Soil Sampling**

Subsurface explorations are completed using drilling equipment operated by a licensed drilling subcontractor. The drilling method is selected based on the anticipated subsurface conditions. In general, push-probe or hollow-stem methods are utilized for softer silty soils and sonic or air-rotary methods are utilized for harder, rocky conditions. An MSBA representative oversees and directs the explorations and obtains all soil and groundwater samples.

Soil samples are collected by MSBA and placed into laboratory provided wide-mouth glass jars, leaving as little headspace as possible. Soil samples are also collected in 40 ml VOA EPA method 5035 vials with a preservative. The jar is immediately sealed firmly with a Teflon-lined screw cap. After the samples are properly sealed, they are placed in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until preparation for analysis by the laboratory. Soil samples are analyzed within the laboratory designated hold times.

Disposable latex gloves are worn by the sampler and discarded after each sample. Sampling equipment is thoroughly cleaned and decontaminated between sampling events to help eliminate the potential for cross-contamination between samples. Each sample is clearly labeled with a unique name. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any conditions which may have affected the sample integrity. The soil type and other pertinent information is recorded on a field Subsurface Exploration Log.

## **Hand Auger Soil Boring and Sampling**

Auger borings are advanced by hand. Samples of soil are collected directly from the barrel of the auger at the target depth or as warranted based on observed conditions. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any unusual conditions which may affect the sample integrity.

Soil samples are collected by MSBA and placed into laboratory provided wide-mouth glass jars, leaving as little headspace as possible. Soil samples are also collected in 40 ml VOA EPA method 5035 vials with a preservative. The jar is immediately sealed firmly with a Teflon-lined screw cap. After the samples are properly sealed, they are placed in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until preparation for analysis by the laboratory. Soil samples are analyzed within the laboratory designated hold times.

Disposable latex gloves are worn by the sampler and discarded after each sample. Sampling equipment is thoroughly cleaned and decontaminated between sampling events to help eliminate the potential for cross-contamination between samples. Each sample is clearly labeled with a unique name. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any conditions which may have affected the sample integrity. The soil type and other pertinent information is recorded on a field Subsurface Exploration Log.

## **Soil Field Screening Methods**

Field screening methods consist of visual observations, water sheen screening, and/or headspace vapor screening using a MiniRAE photoionization detector (PID). Visual screening methods include observations of staining, discoloration, and other indicators of petroleum. Water sheen screening involves placing a small amount of soil into water and making observations of any sheens. Water sheen classifications are made as follows:

No Sheen:            No visible sheen on the water surface.

Slight Sheen:       Faint and dull sheen with no color; dissipates quickly. Naturally occurring organic matter may produce a slight sheen.

**Moderate Sheen:** May have some color or iridescence; spread of sheen is irregular to flowing; most of water surface covered with sheen.

**Heavy Sheen:** Obvious color and iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening is conducted by creating a small hole in the soil core or placing a small portion of soil into a Zip-Loc bag and sealing it shut. The probe of the PID is inserted into the soil core. The soil sample within the bag is allowed to volatilize and the probe of the PID is inserted into the bag. The reported accuracy of a MiniRAE PID is 10% discrepancy at concentrations between 1 and 2,000 ppm and 20% discrepancy at concentrations greater than 2,000 ppm. The PID is calibrated in accordance with the manufacturer recommended procedures prior to each day of use.

## **Temporary Well Installation**

Following completion of the soil borings, temporary wells may be installed to allow for groundwater level monitoring and sample collection. Following completion of the groundwater level monitoring and sampling, the temporary well is abandoned in accordance with the Washington Ecology Water Resources Program standards.

## **Well Development**

Following installation, the temporary wells are developed to remove fines and to enhance the recharge and representative quality of water if sufficient water column and recharge is present. The development is performed using a bailer or pump (peristaltic or submersible). The well may be surged prior to development. Well development continues until the discharge is relatively sediment free. Well development may be discontinued if there is insufficient recharge.

## **Monitoring Well Elevation Survey**

The top of each well casing is surveyed to within plus or minus (+/-) 0.01-foot relative to a common temporary benchmark. A temporary benchmark is designated with an assumed elevation relative to the approximate surface elevation above mean sea level (msl). The surveyed locations are marked on each casing for future reference and measuring. The purpose of the survey is to allow precise correlation of measured groundwater levels between each of the wells at the site. The survey information is recorded on a survey data sheet.

## **Groundwater Level Monitoring**

The depth to groundwater (water level) is measured with an electronic, hand-held, water level indicator. The probe of the indicator is lowered in the well until contact with groundwater completes a circuit causing a buzzer to activate. The depth to water, measured from the surveyed point at the top of the well casing, is read directly from a graduated cord attached to the probe with marked increments of 0.01-foot. The groundwater level data is recorded on a groundwater level data sheet.

If present, free product thickness in a well is measured with an electronic, hand-held oil/water interface probe. The oil/water interface probe is lowered into the well until contact with fluids initiates a signal tone. An intermittent tone indicates water and a continuous tone indicates product. A measuring tape in increments of 0.01-foot is attached to the probe and is used to measure thickness of product in a well.

## **Groundwater Sampling**

Prior to collecting a sample for laboratory analysis, the depth to water is measured and the wetted casing length and corresponding well volume is calculated. A minimum of three well volumes of groundwater is then purged with a bailer, submersible pump or peristaltic pump to remove potentially stagnant groundwater and allow the surrounding formation water to enter the well for sampling. During the purging process, the pH, conductivity, and turbidity may be monitored until these parameters are stabilized to confirm that representative formation water is collected for analysis. Stable parameters are generally defined by three successive readings within plus or minus 0.1 for pH, 3 percent for conductivity, and 10 percent for turbidity. Parameter stabilization is typically achieved in less than three well volumes.

After purging, a groundwater sample is collected when the water level in the well has recharged to within 85 percent of the initial static water level. If the desired amount of recharge is not achieved within a period of 60 minutes, the sample is collected and the deficient water level is recorded. If the water column does not contain sufficient volume, the sample may be collected incrementally as recharge allows. The sample is collected from the well using a bailer, submersible pump, or peristaltic pump with dedicated tubing, under low flow conditions to minimize the loss of volatile components, if present.

The groundwater is transferred into laboratory provided 40 ml glass VOA vials, one liter amber glass jars, and 250 ml polyethylene bottles. Some containers may contain a preservative. The type of container, and whether or not it is preserved, is determined by the type of laboratory analysis to be performed. Groundwater samples collected in VOAs are transferred with minimal agitation and sealed with Teflon-lined septum lids so that no head space is present. Samples collected in VOA vials are submitted for volatile organic compound (VOC) analysis. The vials may contain 2-5 drops of dilute HCL as a preservative increasing the sample hold time from 7 to 14 days. Groundwater

samples are collected in preserved or non-preserved one liter amber glass jars for analysis of non-volatile petroleum constituents. Groundwater samples are collected in non-preserved 250 ml polyethylene bottles for analysis of metals. Samples collected for analysis of dissolved metals are filtered in the field to remove 0.45 micron size particles or immediately upon receipt by the laboratory. Samples collected for analysis of total metals are not filtered. Groundwater purge and sample data is recorded on a Purge and Sample Data sheet.

After the samples are properly sealed, they are placed immediately in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until being prepared by the laboratory for analysis.

## **Chain-of-Custody and Labeling**

The Chain-of-Custody (COC) is a form that documents the custody of a sample from the time of origin to the time of disposal or destruction. A COC is initiated in the field at the time the samples are collected. The sampler documents such information as the time, date, type of sample, and requested analyses. Any individual in custody of the samples, including the laboratory, is required to document the transfer of custody (beginning with the sampler) by signing the COC (including date and time of transfer).

## **Equipment Decontamination**

Equipment used to collect soil and groundwater samples such as; bailers, water level indicators, etc., is decontaminated prior to each use. Strict decontamination procedures are utilized to help eliminate the potential for cross-contamination between samples and sample locations.

The decontamination procedure includes a thorough washing in tap water with Liquinox followed by two rinses in tap water and a third and final spray rinse using distilled water. If time permits, the sampling equipment is allowed to air dry. Disposable latex gloves are worn during sampling to help eliminate the potential for cross-contamination by the sampler. The gloves are discarded after each sample event and a new pair is utilized for each subsequent sampling event.

## **Investigation Derived Waste**

Investigation derived waste (IDW) accumulated during the explorations typically consists of soil, groundwater, or decontamination and rinse waters. Soil and water are collected and placed into suitable containers. A label is affixed to each storage container including the date, contents, and contact information. The containers are stored onsite in a secure location pending disposal at an authorized facility. Disposable items such as sampling gloves, paper towels, and plastic sheeting are placed into plastic garbage bags and disposed in a municipal trash receptacle.

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## Appendix C

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GeoPotential Geophysical Survey Summary Report

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ENVIRONMENTAL & EXPLORATION GEOPHYSICS

330 Creekside Terrace, Fairview, OR 97024 Phone: (503) 912-6441 Fax: (503) 912-6448  
WEB <http://www.geopotential.biz/> E-MAIL [GeoPotential@geopotential.biz](mailto:GeoPotential@geopotential.biz)

**SUMMARY REPORT**

**SUBSURFACE MAPPING SURVEY  
TO DETECT  
UNDERGROUND STORAGE TANKS,  
BACKFILLED EXCAVATIONS & UTILITIES**

*North Star Casteel Property  
1200 West 13<sup>th</sup> Street  
Vancouver, WA 98660*

**CLIENT**

*Martin S. Burck Associates, Inc.  
200 North Wasco Court  
Hood River, OR 97031*

**DATE OF SURVEY**

*April 27, 2021*

**GeoPotential Project Number: 1257**



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## SUMMARY

A Subsurface Mapping Survey (SMS) was conducted over 13 Areas over the North Star Casteel Property located at 1200 West 13<sup>th</sup> Street in Vancouver, WA to search for possible Underground Storage Tanks (USTs) and UST backfilled pits (see Figures). A Subsurface Clearance Survey (SCS) was conducted over proposed boring and excavating locations.

Magnetic Surveys, Ground Penetrating Radar (GPR) Surveys and hand held magnetic and electromagnetic scanners were used for the project.

One possible UST was detected in the area covered by the SMS (Area 8).

Two possible UST backfilled excavations were detected (Areas 7 & 1).

Three shallow backfilled excavations were detected (Areas 4, 5 & 11).

Two catch basin/dry wells were mapped (Areas 2 & 3 & Areas 8 & 9).

An open drain field was mapped in Area 10.

A SCS was conducted over all 13 Areas and utilities mapped.

## INTRODUCTION

Ralph Soule & Tarek Zaher of GeoPotential conducted the Subsurface Mapping Survey. Josh Owen was the representative for MSBA. Fieldwork was conducted on April 27, 2021. The report was completed and e-mailed to MSBA on May 6, 2021.

Subsurface mapping surveys are geophysical surveys utilizing geophysical methods and data to detect and locate natural and manmade subsurface features. Magnetic Surveys are used to detect and map the locations of buried **ferrous** (iron-bearing) objects (see Appendix A). Ground Penetrating Radar (GPR) Surveys are used to map both natural and manmade subsurface features such as USTs, utilities, backfilled pits, etc. (see Appendix B.). Pipe and cable locators are used to map the locations of buried utilities and piping.

Once subsurface ferrous objects are detected from a magnetic survey then hand held scanners and GPR surveys are used to map the locations, depths, sizes and shapes of the objects.

## SURVEY OBJECTIVES

The objectives of this SMS survey were:

1. Search for USTs.
2. Search for backfilled UST Pits.
3. Search for shallow backfilled excavations.
4. Search for catch/dry well locations.

## SURVEY SITE

The SMS Site consisted of asphalt, gravel and soil covered areas (see Figures). MSBA designated 13 Areas of interest on the Site. Historical information provided by MSBA indicated USTs had previously occupied the Site and shallow excavations had previously been conducted on the Site. A possible standing vent pipe in Area 8 was the only surface indication of possible USTs on the Site. Four catch basins In Areas 2, 3, 8 & 9 were exposed on the Site

## SURVEY EQUIPMENT

The following geophysical instruments were used to conduct the survey:

- Mala RAMAC Ground Penetrating Radar System with a 450 MHz antenna (GPR Survey).
- Schonstedt GA52 Magnetic Gradiometer.
- Aqua-Tronics A6 Pipe & Cable locator.
- Heath Sure Lock pipe & Cable locator.

This equipment and the procedures used to meet the survey objectives of this project have been proven effective in detecting metallic objects and mapping non-metallic features such as disturbed soil from backfilled pits.

Geophysical techniques are excellent at detecting changes in the subsurface caused by natural and manmade objects; however, they are poor at actually identifying subsurface features. Complementary methods may be used to assist in the interpretation; however, the only sure way of identifying a buried feature is by excavation.

Brief descriptions of the magnetic method and the radar method are included in the Appendices.

## PROCEDURE

### SMS Survey

MSBA designated 13 Areas of interest on the Site. The Site was divided into Site South (Figure 2) and Site North (Figure 3). A SMS was conducted over each Area consisting of a Magnetic Scan with the Schonstedt , an Electromagnetic Scan with the A6, a Power Cable Scan with the Heath Sure Lock and a Ground Penetrating Radar Scan with the MALA GPR. Results were marked on the Areas with wire flags and marking paint. A photograph of each Area was taken and is presented in Figures 2 & 3. Google Aerials are used as underlays for Figures.

## RESULTS

Results are shown on Figures 2 & 3.

### **SITE SOUTH – Figure 2**

Area 1: This AREA consisted of a shallow (3-4 feet bgs) excavation over part of the Site and a deeper (10-11 feet bgs) over the remainder of the Site that may indicate the former location of a UST. An air pressure line was mapped crossing the Site.

Areas 2 & 3: A catch basin in Area 3 drains to a catch basin/dry well in Area 2.

Area 4: A shallow backfilled excavation (2-4 feet bgs) with 2 utility lines in the vicinity of the excavation.

Area 5: A shallow backfilled excavation (2-4 feet bgs) with a utility line in the vicinity of the excavation.

Area 6: A utility line in the vicinity of a proposed boring.

**NORTH SITE – Figure 3**

Area 7: A deeper backfilled excavation (9-10 feet bgs) with a utility line in the vicinity of the excavation.

Area 8: A possible UST at a depth of 4 feet bgs. The diameter of the UST is 5-6 feet. The length could not be determined due to surface features preventing the acquisition of GPR data. A possible vent pipe was exposed on the wall of the building on the South Side of the possible UST. Excavation is necessary to confirm the existence of the UST.

Areas 8 & 9: A catch basin in Area 8 drains to a catch basin/dry well in Area 9.

Area 10: A 10-11 foot bgs backfilled excavation filled with coarse gravel and is interpreted as an open drain field for storm water.

Area 11: A shallow (3-4 feet bgs) backfilled excavation with 2 utility lines in the vicinity of the excavation. An apparent abandoned water meter is located on the South edge of Area 11.

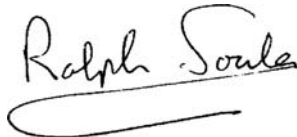
Area 12: A proposed boring location in an open field with no utilities.

Area 13: A proposed boring area with 2 utility lines in the vicinity of the borings.

**LIMITATIONS**

Limitations of magnetometer and GPR surveys can be seen in the Appendices.

Geophysical surveys consist of interpreting geophysical responses from subsurface features. Since a variety of subsurface features can produce identical geophysical responses, it is necessary to confirm the geophysical interpretation with intrusive investigations such as excavating or drilling. In addition, many subsurface features may produce no geophysical response.



**Ralph Soule**  
**GeoPotential**

**May 6, 2021**





EAST



SOUTH



SOUTHWEST



SOUTH



SOUTH





ENVIRONMENTAL & EXPLORATION GEOPHYSICS  
330 Creekside Terrace, Fairview, OR 97024 Phone: (503) 912-6441 Fax: (503) 912-6449  
WEB <http://www.geopotential.biz/> E-MAIL [GeoPotential@geopotential.biz](mailto:GeoPotential@geopotential.biz)

**LOCATION:**

North Star Casteel Property  
1200 West 13th Street  
Vancouver, WA 98660

Figure 3. Site North Locations

DATE: April 28, 2021

SUBSURFACE MAPPING SURVEY

PROJECT No. 1275

CLIENT:

MSBA



## ENVIRONMENTAL & EXPLORATION GEOPHYSICS

330 Creekside Terrace, Fairview, OR 97024 Phone: (503) 912-6441 Fax: (503) 912-6448  
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### APPENDIX A GROUND PENETRATING RADAR SURVEYS

Ground Penetrating Radar (GPR) can be a valuable tool to accurately locate both metallic and non-metallic UST's and utilities, buried drums and hazardous material at some sites. It may detect objects below reinforced concrete floors and slabs. GPR may delineate trenches and excavations and, under some conditions, it may be used to locate contaminant plumes. It has been used as an archaeological tool to look for buried artifacts. It may accurately profile fresh water lake bottoms either from a boat or from a frozen lake surface. GPR may be used to locate voids below roads and runways. GPR has numerous engineering applications. It can be used in non-destructive testing of engineering material, for example, locating rebar in concrete structures and determining the thickness of concrete and other structural material.

GPR uses short impulses of high frequency radio waves directed into the ground to acquire information about the subsurface. The energy radiated into the ground is reflected back to the antenna by features having different electrical properties to that of the surrounding material. The greater the contrast, the stronger the reflection. Typical reflectors include water table, bedrock, bedding, fractures, voids, contaminant plumes and man-made objects such as UST's and metal and plastic utilities. Materials having little electrical contrast like clay and concrete pipes may not produce strong reflections and may not be seen. Data are digitally recorded or downloaded to a laptop computer for filtering and processing.

The frequency of the radar signal used for a survey is a trade off. Low frequencies (250 MHz – 50 MHz) give better penetration but low resolution so that pipes and utilities may not be seen. Pipes and utilities may be seen using higher frequencies (500 MHz) but the depth of penetration may be limited to only a few feet especially in the wet, clayey soils found in many areas of the NW USA. The GPR frequency is dependent upon the antenna. Once an antenna is selected, nothing the operator can do can increase the depth of penetration.

Radar data is ambiguous. Many buried objects produce echoes that may be similar to the echo expected from the target object. Boulders and debris produce reflections that are similar to pipes and tanks. Subtle changes in the electrical properties along a traverse caused by changes in soil type, mineralogy, grain size, and moisture content all produce “noise” that can make interpretation difficult. Interpreting radargrams is an art as much as a science.

Under some conditions, although a UST itself may not be clearly visible in a GPR record, the excavation or trench in which the UST is buried is evident. Usually GPR data is used to compliment data from other “tools”. For example, a trench-like reflection but no clear UST reflection, combined with a “tank” shaped magnetic anomaly suggests the presence of a UST. Although the UST itself could not be seen using GPR, the radar showed a trench-like reflection. The magnetic data showed a large ferrous object. We would report a possible UST at that location.

GPR is often used in conjunction with magnetometer surveys. Magnetometer Surveys are very fast and large areas can be covered cost effectively. Magnetic anomalies are marked in the field, and then may be further investigated using radar.



GPR, like other geophysical tools, is excellent at detecting changes across a site, but it is poor at actually identifying the cause of the change. **The only definite way to identify buried objects is through excavation.**

#### **ADVANTAGES - General**

- When GPR data is properly interpreted subsurface objects can usually be confidently identified. This often requires the GPR data be combined with other geophysical data, surface features and historical information.
- GPR provides continuous records along traverses which, depending on the goal of the survey, may be interpreted in the field.
- At flat, open sites, for reconnaissance purposes, the antenna can be towed behind a vehicle at several mph.
- Many GPR antennas are shielded and are unaffected by surface and overhead objects and power lines.
- GPR can be used in conjunction with magnetic or EM surveys to accurately locate buried objects.

#### **ADVANTAGES – Site specific**

- With a low frequency antenna, in clean, dry, sandy soil, reflections from targets as deep as 100 feet are possible. Geologic features such as bedrock and cross bedding may be seen at some sites.
- The resolution of data is very high particularly for high frequency antennas.
- Shallow, man-made objects generally can be detected.
- Fiberglass UST's and plastic pipes can be detected using GPR.

#### **LIMITATIONS - General**

- To acquire the highest quality data, proper coupling between the antenna and the ground surface is necessary. Poor data may be obtained at sites covered with debris, an uneven surface, tall grass and brush. Objects located at curbs are difficult to see.
- Acquiring GPR data is slow. The antenna must be over the target. The signal from the antenna is cone-shaped. Reflections from objects to the side of the antenna may be seen, but their actual location relative to the antenna is not obvious.
- Penetration of the GPR signal is "site specific" and its depth of penetration at a particular site cannot be predicted ahead of time. Near surface conductive material, such as salty or contaminated ground water and wet, clay-rich soil, may attenuate the radar signal, limiting the effective depth of the survey to several feet. Reinforced concrete also can attenuate the signal. Rebar may produce reflections that look like pipes.

- GPR may not be cost-effective for some projects. For a detailed survey mapping underground storage tanks and utilities, it may be necessary to collect data in orthogonal directions at 5-foot line spacing.

#### **LIMITATIONS – Interpretation**

- Interpretation can be difficult. Radar data are ambiguous. Subsurface objects can be detected but, in general, they cannot be identified. USTs and utilities have a characteristic reflection, however, large rocks and boulders have a similar reflection.
- The reflection visible in a GPR record is very complex and may be caused by small changes in the electrical properties of the soil. The target in mind may not produce the reflection. Due to “noise”, the target may be missed. USTs and deep utilities may be missed if they are under debris and/or other pipes.
- Other methods may be necessary to aid in the interpretation of the data (use a magnetometer to detect a large metallic mass, then GPR to determine if the object is tank-like, or a utility locator to determine if there are feed lines and fill pipes leading to the object).
- Adequate contrast between the ground and the target is required to obtain reflections. UST’s may be missed if they are badly corroded. Utilities made of “earth” materials like clay and concrete may not be detected since their electrical properties are similar to the surrounding soil.
- To determine the depth to an object without "ground truth", assumptions must be made regarding soil properties. Even with ground truth at several locations on the same site, changes in material across a site (therefore changes in signal velocity) can cause errors in depth measurements at other locations.

## Appendix D

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### Excavation Photographs

- Photo 1: AOPC 1: UST Area
- Photo 2: AOPC 1: Middle Deeper Excavation
- Photo 3: AOPC 1: Southern Excavations
- Photo 4: AOPC 1: Southwest Excavations
- Photo 5: AOPC 1: Baghouse Excavation
- Photo 6: AOPC 1: Baghouse Excavation
- Photo 7: AOPC 1: Bahgouse Excavation
- Photo 8: AOPC 1: Baghouse Excavation
- Photo 9: AOPC 1: Baghouse Excavation
- Photo 10: AOPC 5: Middle Excavation
- Photo 11: AOPC 5: Western Excavation
- Photo 12: AOPC 5: Western Excavation
- Photo 13: AOPC 5: Northern Excavation
- Photo 14: AOPC 5: Southwest Excavation
- Photo 15: AOPC 7: Previous 2018 Excavation and Loading Dock
- Photo 16: AOPC 8: Excavation
- Photo 17: AOPC 9: S24 and S67 Vacuum Removal
- Photo 18: AOPC 9: S23 and S68 Vacuum Removal
- Photo 19: AOPC 13: Excavation
- Photo 20: AOPC 14: Western Excavation



Photo 1: AOPC 1: UST Area



Photo 2: AOPC 1: Middle Deeper Excavation



Photo 3: AOPC 1: Southern Excavations



Photo 4: AOPC 1: Southwest Excavations





Photo 5: AOPC 1: Baghouse Excavation



Photo 6: AOPC 1: Baghouse Excavation



Photo 7: AOPC 1: Baghouse Excavation



Photo 8: AOPC 1: Baghouse Excavation





Photo 9: AOPC 1: Baghouse Excavation



Photo 10: AOPC 5: Middle Excavation



Photo 11: AOPC 5: Western Excavation



Photo 12: AOPC 5: Western Excavation





Photo 13: AOPC 5: Northern Excavation



Photo 14: AOPC 5: Southwest Excavation



Photo 15: AOPC 7: Previous 2018 Excavation and Loading Dock



Photo 16: AOPC 8: Excavation





Photo 17: AOPC 9: S24 and S67 Vacuum Removal



Photo 18: AOPC 9: S23 and S68 Vacuum Removal



Photo 19: AOPC 13: Excavation



Photo 20: AOPC 14: Western Excavation



## Appendix E

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### Soil Sample Laboratory Analytical Reports

- 1) Sample Date 4/27/21 (#L1346559)
- 2) Sample Date 4/27/21 (#L1350830)
- 3) Sample Date 4/27/21 (#GG-724)
- 4) Sample Date 4/30/21 (#GG-754)
- 5) Sample Date 4/28/21 (#L1346427)
- 6) Sample Date 4/28/21 (#L1350788)
- 7) Sample Date 4/29/21 (#L1350377)
- 8) Sample Date 4/30/21 (#L1352800)
- 9) Sample Date 4/30/21 (#L1347640)
- 10) Sample Date 4/30/21 (#L1347655)
- 11) Sample Date 4/30/21 (#L1350828)
- 12) Sample Date 4/29/21 (#L1352279)
- 13) Sample Date 5/26/21 (#L1359456)
- 14) Sample Date 5/26/21 (#L1359488)
- 15) Sample Date 6/7/21 (#L1363905)
- 16) Sample Date 6/8/21 (#L1364591)
- 17) Sample Date 6/14/21 (#L1367187)
- 18) Sample Date 6/24/21 (#L1371625)
- 19) Sample Date 8/12/21 (#L1390834)
- 20) Sample Date 8/12/21 (#L1394271)

# DRAFT

---

1) Sample Date 4/27/21 (#L1346559)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1346559  
Samples Received: 05/01/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/27/21 09:18

Received date/time  
05/01/21 10:00

## S1-0 L1346559-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1663543	5	05/03/21 16:49	05/04/21 11:34	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1664581	25	04/27/21 09:18	05/05/21 15:01	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1663870	20	04/27/21 09:18	05/04/21 22:11	JBE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	400	05/06/21 09:40	05/07/21 03:50	DMG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1664927	1	05/06/21 00:18	05/06/21 09:26	SSH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 06:13	AAT	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	20	05/04/21 19:08	05/05/21 12:11	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 09:58

Received date/time  
05/01/21 10:00

## S2-1.5 L1346559-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 05:13	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 10:12

Received date/time  
05/01/21 10:00

## S3-0 L1346559-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 05:58	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 10:26

Received date/time  
05/01/21 10:00

## S4-0.5 L1346559-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1662830	1	05/04/21 19:39	05/05/21 16:35	BMF	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1663543	5	05/03/21 16:49	05/04/21 11:37	TM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 05:28	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 12:40

Received date/time  
05/01/21 10:00

## S5-0 L1346559-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1665739	1	05/08/21 14:00	05/09/21 17:25	AAT	Mt. Juliet, TN

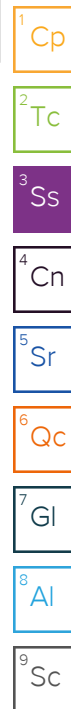
Collected by  
Jon White

Collected date/time  
04/27/21 12:54

Received date/time  
05/01/21 10:00

## S6-1 L1346559-06 Solid

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Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1665739	1	05/08/21 14:00	05/09/21 16:46	AAT	Mt. Juliet, TN



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/27/21 13:01

Received date/time  
05/01/21 10:00

## S7-0 L1346559-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1665739	1	05/08/21 14:00	05/09/21 14:47	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 14:47

Received date/time  
05/01/21 10:00

## S8-3.5 L1346559-08 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1663870	1	04/27/21 14:47	05/04/21 22:30	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1664826	1	04/27/21 14:47	05/05/21 21:24	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	1	05/06/21 09:40	05/07/21 13:48	WCR	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 14:56

Received date/time  
05/01/21 10:00

## S9-3.5 L1346559-09 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664627	1	05/05/21 12:09	05/05/21 12:22	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1663870	1	04/27/21 14:56	05/04/21 22:49	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1664826	1	04/27/21 14:56	05/05/21 21:43	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	1	05/06/21 09:40	05/07/21 01:14	DMG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 14:59

Received date/time  
05/01/21 10:00

## S10-3.5 L1346559-10 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664627	1	05/05/21 12:09	05/05/21 12:22	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1663870	1	04/27/21 14:59	05/04/21 23:08	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1664826	1	04/27/21 14:59	05/05/21 22:02	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	1	05/06/21 09:40	05/07/21 01:26	DMG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 12:02

Received date/time  
05/01/21 10:00

## EB-1 L1346559-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1665090	1	05/06/21 00:49	05/06/21 19:47	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1663987	1	05/05/21 00:46	05/05/21 00:46	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1663336	1	05/03/21 21:53	05/03/21 21:53	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664918	1	05/05/21 17:11	05/06/21 01:34	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1663506	1	05/03/21 22:36	05/04/21 08:54	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/27/21 00:00

Received date/time  
05/01/21 10:00

## TRIP BLANK L1346559-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1663336	1	05/03/21 21:34	05/03/21 21:34	BMB	Mt. Juliet, TN

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1346559

DATE/TIME:

05/11/21 18:50

PAGE:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	79.9		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Arsenic	19.3		1.25	5	05/04/2021 11:34	<a href="#">WG1663543</a>
Cadmium	2.27		1.25	5	05/04/2021 11:34	<a href="#">WG1663543</a>
Chromium	188		6.26	5	05/04/2021 11:34	<a href="#">WG1663543</a>
Lead	557		2.50	5	05/04/2021 11:34	<a href="#">WG1663543</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	5.12	<a href="#">B</a>	4.04	25	05/05/2021 15:01	<a href="#">WG1664581</a>
(S) a,a,a-Trifluorotoluene(FID)	99.8		77.0-120		05/05/2021 15:01	<a href="#">WG1664581</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		1.62	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Acrylonitrile	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Benzene	ND		0.0323	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Bromobenzene	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Bromodichloromethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Bromoform	ND		0.808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Bromomethane	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
n-Butylbenzene	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
sec-Butylbenzene	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
tert-Butylbenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Carbon disulfide	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Carbon tetrachloride	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Chlorobenzene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Chlorodibromomethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Chloroethane	ND	<a href="#">J4</a>	0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Chloroform	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Chloromethane	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
2-Chlorotoluene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
4-Chlorotoluene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2-Dibromo-3-Chloropropane	ND	<a href="#">C3</a>	0.808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2-Dibromoethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Dibromomethane	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2-Dichlorobenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,3-Dichlorobenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,4-Dichlorobenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Dichlorodifluoromethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1-Dichloroethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2-Dichloroethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1-Dichloroethene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
cis-1,2-Dichloroethene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
trans-1,2-Dichloroethene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2-Dichloropropane	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1-Dichloropropene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,3-Dichloropropane	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
cis-1,3-Dichloropropene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>



## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
trans-1,3-Dichloropropene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
2,2-Dichloropropane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Di-isopropyl ether	ND		0.0323	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Ethylbenzene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Hexachloro-1,3-butadiene	ND		0.808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Isopropylbenzene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
p-Isopropyltoluene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
2-Butanone (MEK)	ND		3.23	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Methylene Chloride	ND		0.808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
4-Methyl-2-pentanone (MIBK)	ND		0.808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Methyl tert-butyl ether	ND		0.0323	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Naphthalene	ND	<a href="#">C3</a>	0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
n-Propylbenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Styrene	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1,1,2-Tetrachloroethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1,2,2-Tetrachloroethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1,2-Trichlorotrifluoroethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Tetrachloroethene	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Toluene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2,3-Trichlorobenzene	ND	<a href="#">C4 J4</a>	0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C4</a>	0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1,1-Trichloroethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,1,2-Trichloroethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Trichloroethene	ND		0.0323	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Trichlorofluoromethane	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2,3-Trichloropropane	ND		0.404	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2,4-Trimethylbenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,2,3-Trimethylbenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
1,3,5-Trimethylbenzene	ND		0.162	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Vinyl chloride	ND		0.0808	20	05/04/2021 22:11	<a href="#">WG1663870</a>
Xylenes, Total	ND		0.210	20	05/04/2021 22:11	<a href="#">WG1663870</a>
(S) Toluene-d8	117		75.0-131		05/04/2021 22:11	<a href="#">WG1663870</a>
(S) 4-Bromofluorobenzene	91.1		67.0-138		05/04/2021 22:11	<a href="#">WG1663870</a>
(S) 1,2-Dichloroethane-d4	104		70.0-130		05/04/2021 22:11	<a href="#">WG1663870</a>

## Sample Narrative:

L1346559-01 WG1663870: Lowest possible dilution due to sample foaming.

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	34700		2000	400	05/07/2021 03:50	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	ND		5010	400	05/07/2021 03:50	<a href="#">WG1664922</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		05/07/2021 03:50	<a href="#">WG1664922</a>

## Sample Narrative:

L1346559-01 WG1664922: Cannot run at lower dilution due to viscosity of extract

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0426	1	05/06/2021 09:26	<a href="#">WG1664927</a>
PCB 1221	ND		0.0426	1	05/06/2021 09:26	<a href="#">WG1664927</a>
PCB 1232	ND		0.0426	1	05/06/2021 09:26	<a href="#">WG1664927</a>
PCB 1242	ND		0.0426	1	05/06/2021 09:26	<a href="#">WG1664927</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1248	ND		0.0213	1	05/06/2021 09:26	<a href="#">WG1664927</a>
PCB 1254	0.322		0.0213	1	05/06/2021 09:26	<a href="#">WG1664927</a>
PCB 1260	ND		0.0213	1	05/06/2021 09:26	<a href="#">WG1664927</a>
PCB 1268	ND		0.0213	1	05/06/2021 09:26	<a href="#">WG1664927</a>
(S) Decachlorobiphenyl	53.3		10.0-135		05/06/2021 09:26	<a href="#">WG1664927</a>
(S) Tetrachloro-m-xylene	45.5		10.0-139		05/06/2021 09:26	<a href="#">WG1664927</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Acenaphthene	ND		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Acenaphthylene	ND		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Benzo(a)anthracene	ND		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Benzo(a)pyrene	0.128		0.00751	1	05/05/2021 06:13	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	0.113		0.00751	1	05/05/2021 06:13	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	0.0421		0.00751	1	05/05/2021 06:13	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	0.0308		0.00751	1	05/05/2021 06:13	<a href="#">WG1664105</a>
Chrysene	0.161		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	0.0109		0.00751	1	05/05/2021 06:13	<a href="#">WG1664105</a>
Fluoranthene	0.220		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Fluorene	ND		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	0.0487		0.00751	1	05/05/2021 06:13	<a href="#">WG1664105</a>
Naphthalene	0.0590		0.0250	1	05/05/2021 06:13	<a href="#">WG1664105</a>
Phenanthrene	ND		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
Pyrene	0.402		0.150	20	05/05/2021 12:11	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0250	1	05/05/2021 06:13	<a href="#">WG1664105</a>
2-Methylnaphthalene	0.0433		0.0250	1	05/05/2021 06:13	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.501	20	05/05/2021 12:11	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	82.7	<a href="#">J7</a>	14.0-149		05/05/2021 12:11	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	86.4		14.0-149		05/05/2021 06:13	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	79.7	<a href="#">J7</a>	34.0-125		05/05/2021 12:11	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	0.000	<a href="#">J2</a>	34.0-125		05/05/2021 06:13	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	199	<a href="#">J7</a>	23.0-120		05/05/2021 12:11	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	0.000	<a href="#">J2</a>	23.0-120		05/05/2021 06:13	<a href="#">WG1664105</a>

## Sample Narrative:

L1346559-01 WG1664105: IS/SURR failed on lower dilution.

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	80.9		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Acenaphthene	ND		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Acenaphthylene	ND		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Benzo(a)anthracene	0.0462		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Benzo(a)pyrene	0.0508		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	0.0564		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	0.0430		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	0.0241		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Chrysene	0.0462		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	0.00765		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Fluoranthene	0.0647		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Fluorene	ND		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	0.0457		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Naphthalene	ND		0.0247	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Phenanthrene	0.0323		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
Pyrene	0.0698		0.00742	1	05/05/2021 05:13	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0247	1	05/05/2021 05:13	<a href="#">WG1664105</a>
2-Methylnaphthalene	ND		0.0247	1	05/05/2021 05:13	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.0247	1	05/05/2021 05:13	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	70.3		14.0-149		05/05/2021 05:13	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	46.4		34.0-125		05/05/2021 05:13	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	67.6		23.0-120		05/05/2021 05:13	<a href="#">WG1664105</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.6		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	0.156		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Acenaphthene	0.0125		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Acenaphthylene	0.0523		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Benzo(a)anthracene	0.600		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Benzo(a)pyrene	0.628		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	0.593		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	0.461		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	0.266		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Chrysene	0.588		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	0.0992		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Fluoranthene	0.982		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Fluorene	0.0274		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	0.546		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Naphthalene	0.0521		0.0207	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Phenanthrene	0.611		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
Pyrene	0.884		0.00621	1	05/05/2021 05:58	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0207	1	05/05/2021 05:58	<a href="#">WG1664105</a>
2-Methylnaphthalene	0.0278		0.0207	1	05/05/2021 05:58	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.0207	1	05/05/2021 05:58	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	93.6		14.0-149		05/05/2021 05:58	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	80.4		34.0-125		05/05/2021 05:58	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	91.4		23.0-120		05/05/2021 05:58	<a href="#">WG1664105</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S4-0.5

Collected date/time: 04/27/21 10:26

SAMPLE RESULTS - 04

L1346559

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## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	61.0		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0656	1	05/05/2021 16:35	<a href="#">WG1662830</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Arsenic	ND		1.64	5	05/04/2021 11:37	<a href="#">WG1663543</a>
Barium	ND		4.10	5	05/04/2021 11:37	<a href="#">WG1663543</a>
Cadmium	ND		1.64	5	05/04/2021 11:37	<a href="#">WG1663543</a>
Chromium	ND		8.20	5	05/04/2021 11:37	<a href="#">WG1663543</a>
Lead	3.72		3.28	5	05/04/2021 11:37	<a href="#">WG1663543</a>
Selenium	ND		4.10	5	05/04/2021 11:37	<a href="#">WG1663543</a>
Silver	ND		0.820	5	05/04/2021 11:37	<a href="#">WG1663543</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Acenaphthene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Acenaphthylene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Benzo(a)anthracene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Benzo(a)pyrene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Chrysene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Fluoranthene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Fluorene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Naphthalene	0.0471		0.0328	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Phenanthrene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
Pyrene	ND		0.00984	1	05/05/2021 05:28	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0328	1	05/05/2021 05:28	<a href="#">WG1664105</a>
2-Methylnaphthalene	ND		0.0328	1	05/05/2021 05:28	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.0328	1	05/05/2021 05:28	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	76.4		14.0-149		05/05/2021 05:28	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	70.2		34.0-125		05/05/2021 05:28	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	93.5		23.0-120		05/05/2021 05:28	<a href="#">WG1664105</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.4		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	0.0559		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Acenaphthene	0.00885		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Acenaphthylene	ND		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Benzo(a)anthracene	0.502		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Benzo(a)pyrene	0.322		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Benzo(b)fluoranthene	0.538		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Benzo(g,h,i)perylene	0.166		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Benzo(k)fluoranthene	0.211		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Chrysene	0.594		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Dibenz(a,h)anthracene	0.0408		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Fluoranthene	1.26		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Fluorene	0.0111		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Indeno(1,2,3-cd)pyrene	0.191		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Naphthalene	ND		0.0214	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Phenanthrene	0.405		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
Pyrene	1.10		0.00643	1	05/09/2021 17:25	<a href="#">WG1665739</a>
1-Methylnaphthalene	ND		0.0214	1	05/09/2021 17:25	<a href="#">WG1665739</a>
2-Methylnaphthalene	ND		0.0214	1	05/09/2021 17:25	<a href="#">WG1665739</a>
2-Chloronaphthalene	ND		0.0214	1	05/09/2021 17:25	<a href="#">WG1665739</a>
(S) Nitrobenzene-d5	35.3		14.0-149		05/09/2021 17:25	<a href="#">WG1665739</a>
(S) 2-Fluorobiphenyl	50.7		34.0-125		05/09/2021 17:25	<a href="#">WG1665739</a>
(S) p-Terphenyl-d14	62.6		23.0-120		05/09/2021 17:25	<a href="#">WG1665739</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.2		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Acenaphthene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Acenaphthylene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Benzo(a)anthracene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Benzo(a)pyrene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Benzo(b)fluoranthene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Benzo(g,h,i)perylene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Benzo(k)fluoranthene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Chrysene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Dibenz(a,h)anthracene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Fluoranthene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Fluorene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Indeno(1,2,3-cd)pyrene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Naphthalene	ND		0.0224	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Phenanthrene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
Pyrene	ND		0.00673	1	05/09/2021 16:46	<a href="#">WG1665739</a>
1-Methylnaphthalene	ND		0.0224	1	05/09/2021 16:46	<a href="#">WG1665739</a>
2-Methylnaphthalene	ND		0.0224	1	05/09/2021 16:46	<a href="#">WG1665739</a>
2-Chloronaphthalene	ND		0.0224	1	05/09/2021 16:46	<a href="#">WG1665739</a>
(S) Nitrobenzene-d5	30.2		14.0-149		05/09/2021 16:46	<a href="#">WG1665739</a>
(S) 2-Fluorobiphenyl	47.4		34.0-125		05/09/2021 16:46	<a href="#">WG1665739</a>
(S) p-Terphenyl-d14	77.4		23.0-120		05/09/2021 16:46	<a href="#">WG1665739</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.5		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Acenaphthene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Acenaphthylene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Benzo(a)anthracene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Benzo(a)pyrene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Benzo(b)fluoranthene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Benzo(g,h,i)perylene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Benzo(k)fluoranthene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Chrysene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Dibenz(a,h)anthracene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Fluoranthene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Fluorene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Indeno(1,2,3-cd)pyrene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Naphthalene	ND		0.0216	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Phenanthrene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
Pyrene	ND		0.00648	1	05/09/2021 14:47	<a href="#">WG1665739</a>
1-Methylnaphthalene	ND		0.0216	1	05/09/2021 14:47	<a href="#">WG1665739</a>
2-Methylnaphthalene	ND		0.0216	1	05/09/2021 14:47	<a href="#">WG1665739</a>
2-Chloronaphthalene	ND		0.0216	1	05/09/2021 14:47	<a href="#">WG1665739</a>
(S) Nitrobenzene-d5	35.6		14.0-149		05/09/2021 14:47	<a href="#">WG1665739</a>
(S) 2-Fluorobiphenyl	53.2		34.0-125		05/09/2021 14:47	<a href="#">WG1665739</a>
(S) p-Terphenyl-d14	80.9		23.0-120		05/09/2021 14:47	<a href="#">WG1665739</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.4		1	05/05/2021 12:34	<a href="#">WG1664626</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

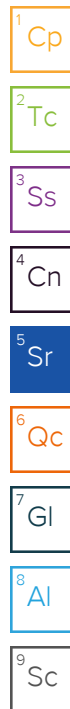
Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Acrylonitrile	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Benzene	ND		0.00110	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Bromobenzene	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Bromodichloromethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Bromoform	ND		0.0275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Bromomethane	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
n-Butylbenzene	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
sec-Butylbenzene	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
tert-Butylbenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Carbon disulfide	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Carbon tetrachloride	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Chlorobenzene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Chlorodibromomethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Chloroethane	ND	<a href="#">J4</a>	0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Chloroform	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Chloromethane	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
2-Chlorotoluene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
4-Chlorotoluene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2-Dibromo-3-Chloropropane	ND	<a href="#">C3</a>	0.0275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2-Dibromoethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Dibromomethane	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2-Dichlorobenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,3-Dichlorobenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,4-Dichlorobenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Dichlorodifluoromethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,1-Dichloroethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2-Dichloroethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,1-Dichloroethene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
cis-1,2-Dichloroethene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
trans-1,2-Dichloroethene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2-Dichloropropane	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,1-Dichloropropene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,3-Dichloropropane	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
cis-1,3-Dichloropropene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
trans-1,3-Dichloropropene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
2,2-Dichloropropane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Di-isopropyl ether	ND		0.00110	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Ethylbenzene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Hexachloro-1,3-butadiene	ND		0.0275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Isopropylbenzene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
p-Isopropyltoluene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
2-Butanone (MEK)	ND		0.110	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Methylene Chloride	ND		0.0275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
4-Methyl-2-pentanone (MIBK)	ND		0.0275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Methyl tert-butyl ether	ND		0.00110	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Naphthalene	ND	<a href="#">C3</a>	0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
n-Propylbenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Styrene	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,1,1,2-Tetrachloroethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,1,2-Trichlorotrifluoroethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Tetrachloroethene	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Toluene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2,3-Trichlorobenzene	ND		0.0138	1	05/05/2021 21:24	<a href="#">WG1664826</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C4</a>	0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,1,1-Trichloroethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,1,2-Trichloroethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Trichloroethene	ND		0.00110	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Trichlorofluoromethane	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2,3-Trichloropropane	ND		0.0138	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2,4-Trimethylbenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,2,3-Trimethylbenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
1,3,5-Trimethylbenzene	ND		0.00551	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Vinyl chloride	ND		0.00275	1	05/04/2021 22:30	<a href="#">WG1663870</a>
Xylenes, Total	ND		0.00716	1	05/04/2021 22:30	<a href="#">WG1663870</a>
(S) Toluene-d8	118		75.0-131		05/04/2021 22:30	<a href="#">WG1663870</a>
(S) Toluene-d8	102		75.0-131		05/05/2021 21:24	<a href="#">WG1664826</a>
(S) 4-Bromofluorobenzene	91.1		67.0-138		05/04/2021 22:30	<a href="#">WG1663870</a>
(S) 4-Bromofluorobenzene	95.7		67.0-138		05/05/2021 21:24	<a href="#">WG1664826</a>
(S) 1,2-Dichloroethane-d4	95.6		70.0-130		05/04/2021 22:30	<a href="#">WG1663870</a>
(S) 1,2-Dichloroethane-d4	91.8		70.0-130		05/05/2021 21:24	<a href="#">WG1664826</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	5.97		4.19	1	05/07/2021 13:48	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	11.8		10.5	1	05/07/2021 13:48	<a href="#">WG1664922</a>
(S) o-Terphenyl	78.5		18.0-148		05/07/2021 13:48	<a href="#">WG1664922</a>



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	05/05/2021 12:22	<a href="#">WG1664627</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

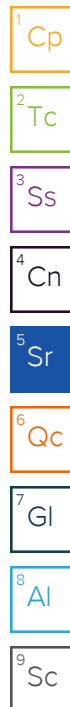
Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Acrylonitrile	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Benzene	ND		0.00114	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Bromobenzene	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Bromodichloromethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Bromoform	ND		0.0286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Bromomethane	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
n-Butylbenzene	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
sec-Butylbenzene	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
tert-Butylbenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Carbon disulfide	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Carbon tetrachloride	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Chlorobenzene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Chlorodibromomethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Chloroethane	ND	<a href="#">J4</a>	0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Chloroform	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Chloromethane	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
2-Chlorotoluene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
4-Chlorotoluene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2-Dibromo-3-Chloropropane	ND	<a href="#">C3</a>	0.0286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2-Dibromoethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Dibromomethane	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2-Dichlorobenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,3-Dichlorobenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,4-Dichlorobenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Dichlorodifluoromethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,1-Dichloroethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2-Dichloroethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,1-Dichloroethene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
cis-1,2-Dichloroethene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
trans-1,2-Dichloroethene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2-Dichloropropane	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,1-Dichloropropene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,3-Dichloropropane	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
cis-1,3-Dichloropropene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
trans-1,3-Dichloropropene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
2,2-Dichloropropane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Di-isopropyl ether	ND		0.00114	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Ethylbenzene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Hexachloro-1,3-butadiene	ND		0.0286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Isopropylbenzene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
p-Isopropyltoluene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
2-Butanone (MEK)	ND		0.114	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Methylene Chloride	ND		0.0286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
4-Methyl-2-pentanone (MIBK)	ND		0.0286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Methyl tert-butyl ether	ND		0.00114	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Naphthalene	ND	<a href="#">C3</a>	0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
n-Propylbenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Styrene	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,1,1,2-Tetrachloroethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,1,2-Trichlorotrifluoroethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Tetrachloroethene	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Toluene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2,3-Trichlorobenzene	ND		0.0143	1	05/05/2021 21:43	<a href="#">WG1664826</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C4</a>	0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,1,1-Trichloroethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,1,2-Trichloroethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Trichloroethene	ND		0.00114	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Trichlorofluoromethane	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2,3-Trichloropropane	ND		0.0143	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2,4-Trimethylbenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,2,3-Trimethylbenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
1,3,5-Trimethylbenzene	ND		0.00572	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Vinyl chloride	ND		0.00286	1	05/04/2021 22:49	<a href="#">WG1663870</a>
Xylenes, Total	ND		0.00744	1	05/04/2021 22:49	<a href="#">WG1663870</a>
(S) Toluene-d8	118		75.0-131		05/04/2021 22:49	<a href="#">WG1663870</a>
(S) Toluene-d8	106		75.0-131		05/05/2021 21:43	<a href="#">WG1664826</a>
(S) 4-Bromofluorobenzene	88.1		67.0-138		05/04/2021 22:49	<a href="#">WG1663870</a>
(S) 4-Bromofluorobenzene	96.6		67.0-138		05/05/2021 21:43	<a href="#">WG1664826</a>
(S) 1,2-Dichloroethane-d4	91.9		70.0-130		05/04/2021 22:49	<a href="#">WG1663870</a>
(S) 1,2-Dichloroethane-d4	91.6		70.0-130		05/05/2021 21:43	<a href="#">WG1664826</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.28	1	05/07/2021 01:14	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	ND		10.7	1	05/07/2021 01:14	<a href="#">WG1664922</a>
(S) o-Terphenyl	78.2		18.0-148		05/07/2021 01:14	<a href="#">WG1664922</a>



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.5		1	05/05/2021 12:22	<a href="#">WG1664627</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Acrylonitrile	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Benzene	ND		0.00112	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Bromobenzene	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Bromodichloromethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Bromoform	ND		0.0281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Bromomethane	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
n-Butylbenzene	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
sec-Butylbenzene	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
tert-Butylbenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Carbon disulfide	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Carbon tetrachloride	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Chlorobenzene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Chlorodibromomethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Chloroethane	ND	<a href="#">J4</a>	0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Chloroform	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Chloromethane	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
2-Chlorotoluene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
4-Chlorotoluene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2-Dibromo-3-Chloropropane	ND	<a href="#">C3</a>	0.0281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2-Dibromoethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Dibromomethane	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2-Dichlorobenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,3-Dichlorobenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,4-Dichlorobenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Dichlorodifluoromethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,1-Dichloroethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2-Dichloroethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,1-Dichloroethene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
cis-1,2-Dichloroethene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
trans-1,2-Dichloroethene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2-Dichloropropane	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,1-Dichloropropene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,3-Dichloropropane	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
cis-1,3-Dichloropropene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
trans-1,3-Dichloropropene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
2,2-Dichloropropane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Di-isopropyl ether	ND		0.00112	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Ethylbenzene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Hexachloro-1,3-butadiene	ND		0.0281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Isopropylbenzene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
p-Isopropyltoluene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
2-Butanone (MEK)	ND		0.112	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Methylene Chloride	ND		0.0281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
4-Methyl-2-pentanone (MIBK)	ND		0.0281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Methyl tert-butyl ether	ND		0.00112	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Naphthalene	ND	<a href="#">C3</a>	0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
n-Propylbenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Styrene	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,1,1,2-Tetrachloroethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,1,2-Trichlorotrifluoroethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Tetrachloroethene	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Toluene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2,3-Trichlorobenzene	ND		0.0141	1	05/05/2021 22:02	<a href="#">WG1664826</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C4</a>	0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,1,1-Trichloroethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,1,2-Trichloroethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Trichloroethene	ND		0.00112	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Trichlorofluoromethane	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2,3-Trichloropropane	ND		0.0141	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2,4-Trimethylbenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,2,3-Trimethylbenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
1,3,5-Trimethylbenzene	ND		0.00562	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Vinyl chloride	ND		0.00281	1	05/04/2021 23:08	<a href="#">WG1663870</a>
Xylenes, Total	ND		0.00731	1	05/04/2021 23:08	<a href="#">WG1663870</a>
(S) Toluene-d8	116		75.0-131		05/04/2021 23:08	<a href="#">WG1663870</a>
(S) Toluene-d8	103		75.0-131		05/05/2021 22:02	<a href="#">WG1664826</a>
(S) 4-Bromofluorobenzene	88.9		67.0-138		05/04/2021 23:08	<a href="#">WG1663870</a>
(S) 4-Bromofluorobenzene	96.2		67.0-138		05/05/2021 22:02	<a href="#">WG1664826</a>
(S) 1,2-Dichloroethane-d4	88.6		70.0-130		05/04/2021 23:08	<a href="#">WG1663870</a>
(S) 1,2-Dichloroethane-d4	90.1		70.0-130		05/05/2021 22:02	<a href="#">WG1664826</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.23	1	05/07/2021 01:26	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	ND		10.6	1	05/07/2021 01:26	<a href="#">WG1664922</a>
(S) o-Terphenyl	74.6		18.0-148		05/07/2021 01:26	<a href="#">WG1664922</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	05/06/2021 19:47	<a href="#">WG1665090</a>
Cadmium	ND		1.00	1	05/06/2021 19:47	<a href="#">WG1665090</a>
Chromium	ND		2.00	1	05/06/2021 19:47	<a href="#">WG1665090</a>
Lead	ND		2.00	1	05/06/2021 19:47	<a href="#">WG1665090</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	05/05/2021 00:46	<a href="#">WG1663987</a>
(S) a,a,a-Trifluorotoluene(FID)	99.3		78.0-120		05/05/2021 00:46	<a href="#">WG1663987</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	3.26		1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Acrylonitrile	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Acrolein	ND	<a href="#">C3</a>	50.0	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Benzene	ND		0.0400	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Bromobenzene	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Bromodichloromethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Bromoform	ND	<a href="#">C3</a>	1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Bromomethane	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>
n-Butylbenzene	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>
sec-Butylbenzene	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>
tert-Butylbenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Carbon disulfide	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Carbon tetrachloride	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Chlorobenzene	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Chlorodibromomethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Chloroethane	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Chloroform	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Chloromethane	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>
2-Chlorotoluene	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
4-Chlorotoluene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,2-Dibromo-3-Chloropropane	ND		1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,2-Dibromoethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Dibromomethane	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,2-Dichlorobenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,3-Dichlorobenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,4-Dichlorobenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Dichlorodifluoromethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,1-Dichloroethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,2-Dichloroethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,1-Dichloroethene	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
cis-1,2-Dichloroethene	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
trans-1,2-Dichloroethene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,2-Dichloropropane	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,1-Dichloropropene	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
1,3-Dichloropropane	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
cis-1,3-Dichloropropene	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
trans-1,3-Dichloropropene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>
2,2-Dichloropropane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Di-isopropyl ether	ND		0.0400	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Ethylbenzene	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>
Hexachloro-1,3-butadiene	ND		1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	
2-Hexanone	ND		1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>1</sup> Cp
Isopropylbenzene	ND	<a href="#">C3</a>	0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>2</sup> Tc
p-Isopropyltoluene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>3</sup> Ss
2-Butanone (MEK)	ND		1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>4</sup> Cn
Methylene Chloride	ND		1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>5</sup> Sr
4-Methyl-2-pentanone (MIBK)	ND		1.00	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>6</sup> Qc
Methyl tert-butyl ether	ND		0.0400	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>7</sup> Gl
Naphthalene	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>8</sup> Al
n-Propylbenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>	<sup>9</sup> Sc
Styrene	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,1,1,2-Tetrachloroethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,1,2,2-Tetrachloroethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,1,2-Trichlorotrifluoroethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
Tetrachloroethene	ND	<a href="#">C3</a>	0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
Toluene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,2,3-Trichlorobenzene	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,2,4-Trichlorobenzene	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,1,1-Trichloroethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,1,2-Trichloroethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
Trichloroethene	ND		0.0400	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
Trichlorofluoromethane	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,2,3-Trichloropropane	ND		0.500	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,2,4-Trimethylbenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,2,3-Trimethylbenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
1,3,5-Trimethylbenzene	ND		0.200	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
Vinyl chloride	ND		0.100	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
Xylenes, Total	ND		0.260	1	05/03/2021 21:53	<a href="#">WG1663336</a>	
(S) Toluene-d8	99.7		75.0-131		05/03/2021 21:53	<a href="#">WG1663336</a>	
(S) 4-Bromofluorobenzene	93.9		67.0-138		05/03/2021 21:53	<a href="#">WG1663336</a>	
(S) 1,2-Dichloroethane-d4	125		70.0-130		05/03/2021 21:53	<a href="#">WG1663336</a>	

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	05/06/2021 01:34	<a href="#">WG1664918</a>
Residual Range Organics (RRO)	ND		250	1	05/06/2021 01:34	<a href="#">WG1664918</a>
(S) o-Terphenyl	77.5		52.0-156		05/06/2021 01:34	<a href="#">WG1664918</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Acenaphthene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Acenaphthylene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Benzo(a)anthracene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Benzo(a)pyrene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Benzo(b)fluoranthene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Benzo(g,h,i)perylene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Benzo(k)fluoranthene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Chrysene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Dibenz(a,h)anthracene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Fluoranthene	ND		0.100	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Fluorene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Naphthalene	ND		0.250	1	05/04/2021 08:54	<a href="#">WG1663506</a>



## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Phenanthrene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
Pyrene	ND		0.0500	1	05/04/2021 08:54	<a href="#">WG1663506</a>
1-Methylnaphthalene	ND		0.250	1	05/04/2021 08:54	<a href="#">WG1663506</a>
2-Methylnaphthalene	ND		0.250	1	05/04/2021 08:54	<a href="#">WG1663506</a>
2-Chloronaphthalene	ND		0.250	1	05/04/2021 08:54	<a href="#">WG1663506</a>
(S) Nitrobenzene-d5	83.7		31.0-160		05/04/2021 08:54	<a href="#">WG1663506</a>
(S) 2-Fluorobiphenyl	88.4		48.0-148		05/04/2021 08:54	<a href="#">WG1663506</a>
(S) p-Terphenyl-d14	88.9		37.0-146		05/04/2021 08:54	<a href="#">WG1663506</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

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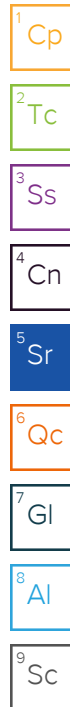
Collected date/time: 04/27/21 00:00

## SAMPLE RESULTS - 12

L1346559

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	2.16		1.00	1	05/03/2021 21:34	WG1663336
Acrylonitrile	ND		0.500	1	05/03/2021 21:34	WG1663336
Acrolein	ND	C3	50.0	1	05/03/2021 21:34	WG1663336
Benzene	ND		0.0400	1	05/03/2021 21:34	WG1663336
Bromobenzene	ND		0.500	1	05/03/2021 21:34	WG1663336
Bromodichloromethane	ND		0.100	1	05/03/2021 21:34	WG1663336
Bromoform	ND	C3	1.00	1	05/03/2021 21:34	WG1663336
Bromomethane	ND		0.500	1	05/03/2021 21:34	WG1663336
n-Butylbenzene	ND		0.500	1	05/03/2021 21:34	WG1663336
sec-Butylbenzene	ND		0.500	1	05/03/2021 21:34	WG1663336
tert-Butylbenzene	ND		0.200	1	05/03/2021 21:34	WG1663336
Carbon disulfide	ND		0.500	1	05/03/2021 21:34	WG1663336
Carbon tetrachloride	ND		0.200	1	05/03/2021 21:34	WG1663336
Chlorobenzene	ND		0.100	1	05/03/2021 21:34	WG1663336
Chlorodibromomethane	ND		0.100	1	05/03/2021 21:34	WG1663336
Chloroethane	ND		0.200	1	05/03/2021 21:34	WG1663336
Chloroform	ND		0.100	1	05/03/2021 21:34	WG1663336
Chloromethane	ND		0.500	1	05/03/2021 21:34	WG1663336
2-Chlorotoluene	ND		0.100	1	05/03/2021 21:34	WG1663336
4-Chlorotoluene	ND		0.200	1	05/03/2021 21:34	WG1663336
1,2-Dibromo-3-Chloropropane	ND		1.00	1	05/03/2021 21:34	WG1663336
1,2-Dibromoethane	ND		0.100	1	05/03/2021 21:34	WG1663336
Dibromomethane	ND		0.200	1	05/03/2021 21:34	WG1663336
1,2-Dichlorobenzene	ND		0.200	1	05/03/2021 21:34	WG1663336
1,3-Dichlorobenzene	ND		0.200	1	05/03/2021 21:34	WG1663336
1,4-Dichlorobenzene	ND		0.200	1	05/03/2021 21:34	WG1663336
Dichlorodifluoromethane	ND		0.100	1	05/03/2021 21:34	WG1663336
1,1-Dichloroethane	ND		0.100	1	05/03/2021 21:34	WG1663336
1,2-Dichloroethane	ND		0.100	1	05/03/2021 21:34	WG1663336
1,1-Dichloroethene	ND		0.100	1	05/03/2021 21:34	WG1663336
cis-1,2-Dichloroethene	ND		0.100	1	05/03/2021 21:34	WG1663336
trans-1,2-Dichloroethene	ND		0.200	1	05/03/2021 21:34	WG1663336
1,2-Dichloropropane	ND		0.200	1	05/03/2021 21:34	WG1663336
1,1-Dichloropropene	ND		0.100	1	05/03/2021 21:34	WG1663336
1,3-Dichloropropane	ND		0.200	1	05/03/2021 21:34	WG1663336
cis-1,3-Dichloropropene	ND		0.100	1	05/03/2021 21:34	WG1663336
trans-1,3-Dichloropropene	ND		0.200	1	05/03/2021 21:34	WG1663336
2,2-Dichloropropane	ND		0.100	1	05/03/2021 21:34	WG1663336
Di-isopropyl ether	ND		0.0400	1	05/03/2021 21:34	WG1663336
Ethylbenzene	ND		0.100	1	05/03/2021 21:34	WG1663336
Hexachloro-1,3-butadiene	ND		1.00	1	05/03/2021 21:34	WG1663336
2-Hexanone	ND		1.00	1	05/03/2021 21:34	WG1663336
Isopropylbenzene	ND	C3	0.100	1	05/03/2021 21:34	WG1663336
p-Isopropyltoluene	ND		0.200	1	05/03/2021 21:34	WG1663336
2-Butanone (MEK)	ND		1.00	1	05/03/2021 21:34	WG1663336
Methylene Chloride	ND		1.00	1	05/03/2021 21:34	WG1663336
4-Methyl-2-pentanone (MIBK)	ND		1.00	1	05/03/2021 21:34	WG1663336
Methyl tert-butyl ether	ND		0.0400	1	05/03/2021 21:34	WG1663336
Naphthalene	ND		0.500	1	05/03/2021 21:34	WG1663336
n-Propylbenzene	ND		0.200	1	05/03/2021 21:34	WG1663336
Styrene	ND		0.500	1	05/03/2021 21:34	WG1663336
1,1,1,2-Tetrachloroethane	ND		0.100	1	05/03/2021 21:34	WG1663336
1,1,2,2-Tetrachloroethane	ND		0.100	1	05/03/2021 21:34	WG1663336
1,1,2-Trichlorotrifluoroethane	ND		0.100	1	05/03/2021 21:34	WG1663336
Tetrachloroethene	ND	C3	0.100	1	05/03/2021 21:34	WG1663336
Toluene	ND		0.200	1	05/03/2021 21:34	WG1663336



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1346559

DATE/TIME:

05/11/21 18:50

PAGE:

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Collected date/time: 04/27/21 00:00

## SAMPLE RESULTS - 12

L1346559

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichlorobenzene	ND		0.500	1	05/03/2021 21:34	<a href="#">WG1663336</a>
1,2,4-Trichlorobenzene	ND		0.500	1	05/03/2021 21:34	<a href="#">WG1663336</a>
1,1,1-Trichloroethane	ND		0.100	1	05/03/2021 21:34	<a href="#">WG1663336</a>
1,1,2-Trichloroethane	ND		0.100	1	05/03/2021 21:34	<a href="#">WG1663336</a>
Trichloroethene	ND		0.0400	1	05/03/2021 21:34	<a href="#">WG1663336</a>
Trichlorofluoromethane	ND		0.100	1	05/03/2021 21:34	<a href="#">WG1663336</a>
1,2,3-Trichloropropane	ND		0.500	1	05/03/2021 21:34	<a href="#">WG1663336</a>
1,2,4-Trimethylbenzene	ND		0.200	1	05/03/2021 21:34	<a href="#">WG1663336</a>
1,2,3-Trimethylbenzene	ND		0.200	1	05/03/2021 21:34	<a href="#">WG1663336</a>
1,3,5-Trimethylbenzene	ND		0.200	1	05/03/2021 21:34	<a href="#">WG1663336</a>
Vinyl chloride	ND		0.100	1	05/03/2021 21:34	<a href="#">WG1663336</a>
Xylenes, Total	ND		0.260	1	05/03/2021 21:34	<a href="#">WG1663336</a>
(S) Toluene-d8	99.1		75.0-131		05/03/2021 21:34	<a href="#">WG1663336</a>
(S) 4-Bromofluorobenzene	92.0		67.0-138		05/03/2021 21:34	<a href="#">WG1663336</a>
(S) 1,2-Dichloroethane-d4	125		70.0-130		05/03/2021 21:34	<a href="#">WG1663336</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

Method Blank (MB)

(MB) R3650972-1 05/05/21 12:34

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

L1346559-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1346559-07 05/05/21 12:34 • (DUP) R3650972-3 05/05/21 12:34

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	92.5	92.9	1	0.389		10

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R3650972-2 05/05/21 12:34

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3650969-1 05/05/21 12:22

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

1  
Cp

2  
Tc

3  
Ss

L1346577-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1346577-01 05/05/21 12:22 • (DUP) R3650969-3 05/05/21 12:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	88.3	88.3	1	0.0281		10

4  
Cn

5  
Sr

6  
Qc

Laboratory Control Sample (LCS)

(LCS) R3650969-2 05/05/21 12:22

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3650802-1 05/05/21 15:26

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3650802-2 05/05/21 15:28

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.509	102	80.0-120	

L1346504-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346504-04 05/05/21 15:31 • (MS) R3650802-3 05/05/21 15:33 • (MSD) R3650802-4 05/05/21 15:36

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.500	ND	0.542	0.521	103	98.7	1	75.0-125			3.89	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3650052-1 05/04/21 09:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Lead	U		0.0990	2.00
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500

Laboratory Control Sample (LCS)

(LCS) R3650052-2 05/04/21 10:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	97.4	97.4	80.0-120	
Barium	100	100	100	80.0-120	
Cadmium	100	102	102	80.0-120	
Chromium	100	98.2	98.2	80.0-120	
Lead	100	103	103	80.0-120	
Selenium	100	97.9	97.9	80.0-120	
Silver	20.0	20.6	103	80.0-120	

L1346184-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346184-11 05/04/21 10:05 • (MS) R3650052-5 05/04/21 10:15 • (MSD) R3650052-6 05/04/21 10:18

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	126	ND	102	105	80.0	82.6	5	75.0-125			3.15	20
Barium	126	84.4	192	192	85.8	85.7	5	75.0-125			0.0724	20
Cadmium	126	ND	114	114	90.7	90.5	5	75.0-125			0.227	20
Chromium	126	143	220	244	61.6	80.4	5	75.0-125	J6		10.2	20
Lead	126	2.81	115	123	88.9	95.9	5	75.0-125			7.40	20
Selenium	126	ND	107	108	84.9	85.8	5	75.0-125			1.09	20
Silver	25.1	ND	23.0	23.3	91.4	92.8	5	75.0-125			1.44	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3651360-5 05/06/21 17:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic	U		0.180	2.00
Cadmium	U		0.150	1.00
Chromium	U		1.24	2.00
Lead	U		0.849	2.00

Laboratory Control Sample (LCS)

(LCS) R3651360-1 05/06/21 17:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	50.0	48.3	96.7	80.0-120	
Cadmium	50.0	48.8	97.6	80.0-120	
Chromium	50.0	50.2	100	80.0-120	
Lead	50.0	50.1	100	80.0-120	

L1343672-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1343672-08 05/06/21 17:29 • (MS) R3651360-3 05/06/21 18:09 • (MSD) R3651360-4 05/06/21 18:12

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	50.0	ND	48.9	48.4	97.9	96.7	1	75.0-125			1.16	20
Cadmium	50.0	ND	49.1	48.2	98.2	96.5	1	75.0-125			1.82	20
Chromium	50.0	ND	53.7	49.7	107	99.5	1	75.0-125			7.74	20
Lead	50.0	ND	49.7	50.7	99.4	101	1	75.0-125			2.01	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3651094-2 05/04/21 23:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	34.0	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	99.9			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3651094-1 05/04/21 22:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5080	92.4	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			104	78.0-120	

L1346182-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346182-02 05/05/21 04:02 • (MS) R3651094-3 05/05/21 07:18 • (MSD) R3651094-4 05/05/21 07:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5500	ND	4370	4360	79.5	79.3	1	10.0-155			0.229	21
(S) a,a,a-Trifluorotoluene(FID)					106	105		78.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3650688-4 05/05/21 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPHG C6 - C12	0.0406	⬇	0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.3			77.0-120

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650688-2 05/05/21 08:43 • (LCSD) R3650688-3 05/05/21 09:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C6 - C12	5.50	5.00	4.93	90.9	89.6	71.0-124			1.41	20
(S) a,a,a-Trifluorotoluene(FID)				108	109	77.0-120				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3650200-3 05/03/21 20:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		0.548	1.00
Acrylonitrile	U		0.0760	0.500
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon disulfide	U		0.162	0.500
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,2-Dichlorobenzene	U		0.0580	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100
Hexachloro-1,3-butadiene	U		0.508	1.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3650200-3 05/03/21 20:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
2-Hexanone	U		0.400	1.00
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	U		0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
Acrolein	U		0.758	50.0
(S) Toluene-d8	97.6			75.0-131
(S) 4-Bromofluorobenzene	91.7			67.0-138
(S) 1,2-Dichloroethane-d4	123			70.0-130

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650200-1 05/03/21 19:40 • (LCSD) R3650200-2 05/03/21 19:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	26.5	28.1	106	112	10.0-160			5.86	31
Acrylonitrile	25.0	23.1	24.7	92.4	98.8	45.0-153			6.69	22

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650200-1 05/03/21 19:40 • (LCSD) R3650200-2 05/03/21 19:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	4.64	4.32	92.8	86.4	70.0-123			7.14	20
Bromobenzene	5.00	4.84	4.45	96.8	89.0	73.0-121			8.40	20
Bromodichloromethane	5.00	4.92	4.63	98.4	92.6	73.0-121			6.07	20
Bromoform	5.00	3.88	3.82	77.6	76.4	64.0-132			1.56	20
Bromomethane	5.00	4.34	4.15	86.8	83.0	56.0-147			4.48	20
n-Butylbenzene	5.00	4.95	4.61	99.0	92.2	68.0-135			7.11	20
sec-Butylbenzene	5.00	4.99	4.65	99.8	93.0	74.0-130			7.05	20
tert-Butylbenzene	5.00	5.03	4.78	101	95.6	75.0-127			5.10	20
Carbon disulfide	5.00	4.42	4.18	88.4	83.6	56.0-133			5.58	20
Carbon tetrachloride	5.00	4.67	4.34	93.4	86.8	66.0-128			7.33	20
Chlorobenzene	5.00	4.17	3.90	83.4	78.0	76.0-128			6.69	20
Chlorodibromomethane	5.00	4.49	4.26	89.8	85.2	74.0-127			5.26	20
Chloroethane	5.00	4.39	4.19	87.8	83.8	61.0-134			4.66	20
Chloroform	5.00	5.22	4.87	104	97.4	72.0-123			6.94	20
Chloromethane	5.00	5.44	5.10	109	102	51.0-138			6.45	20
2-Chlorotoluene	5.00	4.56	4.30	91.2	86.0	75.0-124			5.87	20
4-Chlorotoluene	5.00	5.02	4.61	100	92.2	75.0-124			8.52	20
1,2-Dibromo-3-Chloropropane	5.00	4.07	4.04	81.4	80.8	59.0-130			0.740	20
1,2-Dibromoethane	5.00	4.34	4.02	86.8	80.4	74.0-128			7.66	20
Dibromomethane	5.00	4.87	4.77	97.4	95.4	75.0-122			2.07	20
1,2-Dichlorobenzene	5.00	4.62	4.44	92.4	88.8	76.0-124			3.97	20
1,3-Dichlorobenzene	5.00	4.51	4.30	90.2	86.0	76.0-125			4.77	20
1,4-Dichlorobenzene	5.00	4.70	4.35	94.0	87.0	77.0-121			7.73	20
Dichlorodifluoromethane	5.00	4.56	4.33	91.2	86.6	43.0-156			5.17	20
1,1-Dichloroethane	5.00	5.13	4.84	103	96.8	70.0-127			5.82	20
1,2-Dichloroethane	5.00	6.35	5.79	127	116	65.0-131			9.23	20
1,1-Dichloroethene	5.00	5.06	4.58	101	91.6	65.0-131			9.96	20
cis-1,2-Dichloroethene	5.00	4.64	4.25	92.8	85.0	73.0-125			8.77	20
trans-1,2-Dichloroethene	5.00	4.50	4.09	90.0	81.8	71.0-125			9.55	20
1,2-Dichloropropane	5.00	5.14	4.67	103	93.4	74.0-125			9.58	20
1,1-Dichloropropene	5.00	5.26	4.86	105	97.2	73.0-125			7.91	20
1,3-Dichloropropane	5.00	4.62	4.41	92.4	88.2	80.0-125			4.65	20
cis-1,3-Dichloropropene	5.00	5.06	4.96	101	99.2	76.0-127			2.00	20
trans-1,3-Dichloropropene	5.00	5.03	4.68	101	93.6	73.0-127			7.21	20
2,2-Dichloropropane	5.00	4.97	4.53	99.4	90.6	59.0-135			9.26	20
Di-isopropyl ether	5.00	5.90	5.34	118	107	60.0-136			9.96	20
Ethylbenzene	5.00	4.16	3.92	83.2	78.4	74.0-126			5.94	20
Hexachloro-1,3-butadiene	5.00	4.43	4.43	88.6	88.6	57.0-150			0.000	20
2-Hexanone	25.0	24.4	24.1	97.6	96.4	54.0-147			1.24	20
Isopropylbenzene	5.00	3.90	3.68	78.0	73.6	72.0-127			5.80	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650200-1 05/03/21 19:40 • (LCSD) R3650200-2 05/03/21 19:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
p-Isopropyltoluene	5.00	5.08	4.61	102	92.2	72.0-133			9.70	20
2-Butanone (MEK)	25.0	28.5	30.2	114	121	30.0-160			5.79	24
Methylene Chloride	5.00	4.30	4.22	86.0	84.4	68.0-123			1.88	20
4-Methyl-2-pentanone (MIBK)	25.0	28.0	27.5	112	110	56.0-143			1.80	20
Methyl tert-butyl ether	5.00	4.26	4.03	85.2	80.6	66.0-132			5.55	20
Naphthalene	5.00	4.09	3.95	81.8	79.0	59.0-130			3.48	20
n-Propylbenzene	5.00	5.04	4.69	101	93.8	74.0-126			7.19	20
Styrene	5.00	4.17	3.91	83.4	78.2	72.0-127			6.44	20
1,1,1,2-Tetrachloroethane	5.00	4.18	3.80	83.6	76.0	74.0-129			9.52	20
1,1,2,2-Tetrachloroethane	5.00	5.07	4.71	101	94.2	68.0-128			7.36	20
Tetrachloroethene	5.00	3.84	3.71	76.8	74.2	70.0-136			3.44	20
Toluene	5.00	4.22	3.95	84.4	79.0	75.0-121			6.61	20
1,1,2-Trichlorotrifluoroethane	5.00	4.64	4.09	92.8	81.8	61.0-139			12.6	20
1,2,3-Trichlorobenzene	5.00	4.59	4.32	91.8	86.4	59.0-139			6.06	20
1,2,4-Trichlorobenzene	5.00	4.47	4.41	89.4	88.2	62.0-137			1.35	20
1,1,1-Trichloroethane	5.00	4.77	4.36	95.4	87.2	69.0-126			8.98	20
1,1,2-Trichloroethane	5.00	4.41	4.14	88.2	82.8	78.0-123			6.32	20
Trichloroethene	5.00	4.46	4.23	89.2	84.6	76.0-126			5.29	20
Trichlorofluoromethane	5.00	4.56	3.77	91.2	75.4	61.0-142			19.0	20
1,2,3-Trichloropropane	5.00	5.23	4.94	105	98.8	67.0-129			5.70	20
1,2,3-Trimethylbenzene	5.00	4.83	4.52	96.6	90.4	74.0-124			6.63	20
1,2,4-Trimethylbenzene	5.00	4.79	4.48	95.8	89.6	70.0-126			6.69	20
1,3,5-Trimethylbenzene	5.00	5.08	4.60	102	92.0	73.0-127			9.92	20
Vinyl chloride	5.00	4.89	4.57	97.8	91.4	63.0-134			6.77	20
Xylenes, Total	15.0	11.8	11.3	78.7	75.3	72.0-127			4.33	20
Acrolein	25.0	12.3	13.4	49.2	53.6	10.0-160			8.56	31
(S) Toluene-d8				98.9	98.6	75.0-131				
(S) 4-Bromofluorobenzene				92.1	92.7	67.0-138				
(S) 1,2-Dichloroethane-d4				122	124	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3650533-2 05/04/21 18:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	0.000525	U	0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon disulfide	U		0.000700	0.0125
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3650533-2 05/04/21 18:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Isopropylbenzene	U		0.000425	0.00250
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	U		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	117			75.0-131
(S) 4-Bromofluorobenzene	89.9			67.0-138
(S) 1,2-Dichloroethane-d4	89.1			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3650533-1 05/04/21 17:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.656	105	10.0-160	
Acrylonitrile	0.625	0.588	94.1	45.0-153	
Benzene	0.125	0.113	90.4	70.0-123	
Bromobenzene	0.125	0.131	105	73.0-121	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3650533-1 05/04/21 17:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromodichloromethane	0.125	0.115	92.0	73.0-121	
Bromoform	0.125	0.123	98.4	64.0-132	
Bromomethane	0.125	0.160	128	56.0-147	
n-Butylbenzene	0.125	0.119	95.2	68.0-135	
sec-Butylbenzene	0.125	0.122	97.6	74.0-130	
tert-Butylbenzene	0.125	0.122	97.6	75.0-127	
Carbon disulfide	0.125	0.107	85.6	56.0-133	
Carbon tetrachloride	0.125	0.140	112	66.0-128	
Chlorobenzene	0.125	0.126	101	76.0-128	
Chlorodibromomethane	0.125	0.131	105	74.0-127	
Chloroethane	0.125	0.181	145	61.0-134	J4
Chloroform	0.125	0.111	88.8	72.0-123	
Chloromethane	0.125	0.141	113	51.0-138	
2-Chlorotoluene	0.125	0.123	98.4	75.0-124	
4-Chlorotoluene	0.125	0.123	98.4	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.0962	77.0	59.0-130	
1,2-Dibromoethane	0.125	0.128	102	74.0-128	
Dibromomethane	0.125	0.117	93.6	75.0-122	
1,2-Dichlorobenzene	0.125	0.115	92.0	76.0-124	
1,3-Dichlorobenzene	0.125	0.124	99.2	76.0-125	
1,4-Dichlorobenzene	0.125	0.131	105	77.0-121	
Dichlorodifluoromethane	0.125	0.119	95.2	43.0-156	
1,1-Dichloroethane	0.125	0.106	84.8	70.0-127	
1,2-Dichloroethane	0.125	0.112	89.6	65.0-131	
1,1-Dichloroethene	0.125	0.119	95.2	65.0-131	
cis-1,2-Dichloroethene	0.125	0.113	90.4	73.0-125	
trans-1,2-Dichloroethene	0.125	0.114	91.2	71.0-125	
1,2-Dichloropropane	0.125	0.116	92.8	74.0-125	
1,1-Dichloropropene	0.125	0.113	90.4	73.0-125	
1,3-Dichloropropane	0.125	0.132	106	80.0-125	
cis-1,3-Dichloropropene	0.125	0.115	92.0	76.0-127	
trans-1,3-Dichloropropene	0.125	0.128	102	73.0-127	
2,2-Dichloropropane	0.125	0.114	91.2	59.0-135	
Di-isopropyl ether	0.125	0.106	84.8	60.0-136	
Ethylbenzene	0.125	0.128	102	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.112	89.6	57.0-150	
Isopropylbenzene	0.125	0.115	92.0	72.0-127	
p-Isopropyltoluene	0.125	0.124	99.2	72.0-133	
2-Butanone (MEK)	0.625	0.686	110	30.0-160	
Methylene Chloride	0.125	0.102	81.6	68.0-123	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3650533-1 05/04/21 17:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	0.625	0.698	112	56.0-143	
Methyl tert-butyl ether	0.125	0.120	96.0	66.0-132	
Naphthalene	0.125	0.0742	59.4	59.0-130	
n-Propylbenzene	0.125	0.127	102	74.0-126	
Styrene	0.125	0.113	90.4	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.126	101	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.112	89.6	68.0-128	
Tetrachloroethene	0.125	0.142	114	70.0-136	
Toluene	0.125	0.136	109	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.123	98.4	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.0543	43.4	59.0-139	J4
1,2,4-Trichlorobenzene	0.125	0.0882	70.6	62.0-137	
1,1,1-Trichloroethane	0.125	0.118	94.4	69.0-126	
1,1,2-Trichloroethane	0.125	0.123	98.4	78.0-123	
Trichloroethene	0.125	0.126	101	76.0-126	
Trichlorofluoromethane	0.125	0.113	90.4	61.0-142	
1,2,3-Trichloropropane	0.125	0.133	106	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.114	91.2	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.120	96.0	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.121	96.8	73.0-127	
Vinyl chloride	0.125	0.151	121	63.0-134	
Xylenes, Total	0.375	0.368	98.1	72.0-127	
(S) Toluene-d8			118	75.0-131	
(S) 4-Bromofluorobenzene			92.8	67.0-138	
(S) 1,2-Dichloroethane-d4			105	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1346602-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346602-04 05/05/21 01:02 • (MS) R3650533-3 05/05/21 02:18 • (MSD) R3650533-4 05/05/21 02:37

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acrylonitrile	6.28	ND	6.51	6.93	104	110	8	10.0-160			6.15	40
Bromobenzene	1.26	ND	1.07	1.25	85.0	99.2	8	10.0-156			15.4	38
Acetone	6.28	ND	6.65	4.50	106	71.6	8	10.0-160			38.6	40
n-Butylbenzene	1.26	ND	0.785	0.979	62.5	77.9	8	10.0-160			21.9	40
Benzene	1.26	ND	0.737	0.933	58.7	74.2	8	10.0-149			23.4	37
sec-Butylbenzene	1.26	ND	0.837	1.02	66.6	81.4	8	10.0-159			20.1	39
tert-Butylbenzene	1.26	ND	0.797	1.01	63.4	80.4	8	10.0-156			23.6	39
Bromodichloromethane	1.26	ND	0.898	1.03	71.4	82.0	8	10.0-143			13.7	37

L1346602-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346602-04 05/05/21 01:02 • (MS) R3650533-3 05/05/21 02:18 • (MSD) R3650533-4 05/05/21 02:37

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromoform	1.26	ND	1.17	1.27	93.3	101	8	10.0-146			8.12	36
Bromomethane	1.26	ND	0.883	1.08	70.3	86.3	8	10.0-149			20.5	38
2-Chlorotoluene	1.26	ND	1.09	1.25	86.6	99.3	8	10.0-159			13.7	38
4-Chlorotoluene	1.26	ND	0.863	1.08	68.7	85.9	8	10.0-155			22.3	39
Carbon disulfide	1.26	ND	0.453	0.635	36.1	50.5	8	10.0-145			33.4	39
Carbon tetrachloride	1.26	ND	0.792	1.08	63.0	85.9	8	10.0-145			30.7	37
Chlorobenzene	1.26	ND	0.885	1.10	70.4	87.9	8	10.0-152			22.1	39
Chlorodibromomethane	1.26	ND	1.13	1.29	89.7	102	8	10.0-146			13.2	37
Dibromomethane	1.26	ND	1.00	1.15	79.7	91.8	8	10.0-147			14.1	35
Chloroethane	1.26	ND	1.00	1.38	79.6	110	8	10.0-146			31.7	40
Chloroform	1.26	ND	0.817	0.969	65.0	77.1	8	10.0-146			17.0	37
Chloromethane	1.26	ND	0.732	0.911	58.3	72.5	8	10.0-159			21.7	37
1,2-Dibromo-3-Chloropropane	1.26	ND	1.01	1.03	80.3	82.2	8	10.0-151			2.43	39
1,2-Dibromoethane	1.26	ND	1.15	1.31	91.6	104	8	10.0-148			12.9	34
1,2-Dichlorobenzene	1.26	ND	0.946	1.10	75.3	87.2	8	10.0-155			14.7	37
1,3-Dichlorobenzene	1.26	ND	0.919	1.11	73.2	88.6	8	10.0-153			19.0	38
1,4-Dichlorobenzene	1.26	ND	0.987	1.15	78.6	91.6	8	10.0-151			15.3	38
1,1-Dichloropropene	1.26	ND	0.648	0.852	51.6	67.8	8	10.0-153			27.1	35
1,3-Dichloropropane	1.26	ND	1.14	1.31	91.1	104	8	10.0-154			13.2	35
Dichlorodifluoromethane	1.26	ND	0.643	0.888	51.2	70.7	8	10.0-160			32.0	35
1,1-Dichloroethane	1.26	ND	0.719	0.911	57.2	72.5	8	10.0-147			23.5	37
1,2-Dichloroethane	1.26	ND	0.995	1.06	79.2	84.1	8	10.0-148			5.96	35
2,2-Dichloropropane	1.26	ND	0.642	0.916	51.1	72.9	8	10.0-138			35.2	36
1,1-Dichloroethene	1.26	ND	0.665	0.873	52.9	69.5	8	10.0-155			27.1	37
cis-1,2-Dichloroethene	1.26	ND	0.789	0.977	62.8	77.8	8	10.0-149			21.3	37
Di-isopropyl ether	1.26	ND	0.893	1.04	71.1	83.0	8	10.0-147			15.5	36
trans-1,2-Dichloroethene	1.26	ND	0.683	0.865	54.3	68.8	8	10.0-150			23.5	37
1,2-Dichloropropane	1.26	ND	0.916	1.06	72.9	84.7	8	10.0-148			15.0	37
Hexachloro-1,3-butadiene	1.26	ND	0.800	0.946	63.7	75.3	8	10.0-160			16.7	40
cis-1,3-Dichloropropene	1.26	ND	0.926	1.05	73.7	83.3	8	10.0-151			12.2	37
trans-1,3-Dichloropropene	1.26	ND	1.06	1.22	84.6	97.0	8	10.0-148			13.6	37
p-Isopropyltoluene	1.26	ND	0.848	1.05	67.5	83.3	8	10.0-160			20.9	40
Ethylbenzene	1.26	ND	0.805	1.06	64.1	84.1	8	10.0-160			27.0	38
Naphthalene	1.26	ND	0.660	0.726	52.5	57.8	8	10.0-160			9.55	36
Isopropylbenzene	1.26	ND	0.749	0.977	59.6	77.8	8	10.0-155			26.4	38
n-Propylbenzene	1.26	ND	0.827	1.07	65.8	85.0	8	10.0-158			25.5	38
2-Butanone (MEK)	6.28	ND	6.56	6.98	104	111	8	10.0-160			6.11	40
1,1,1,2-Tetrachloroethane	1.26	ND	0.921	1.14	73.3	90.8	8	10.0-149			21.3	39
Methylene Chloride	1.26	ND	0.336	0.919	26.7	73.2	8	10.0-141		J3	93.0	37

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1346602-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346602-04 05/05/21 01:02 • (MS) R3650533-3 05/05/21 02:18 • (MSD) R3650533-4 05/05/21 02:37

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	6.28	ND	7.24	7.41	115	118	8	10.0-160			2.26	35
Methyl tert-butyl ether	1.26	ND	1.09	1.21	87.1	96.1	8	11.0-147			9.77	35
Styrene	1.26	ND	0.840	0.990	66.8	78.8	8	10.0-160			16.4	40
1,1,2,2-Tetrachloroethane	1.26	ND	2.63	2.86	209	228	8	10.0-160	J5	J5	8.43	35
1,2,3-Trichloropropane	1.26	ND	1.27	0.466	101	37.1	8	10.0-156		J3	92.8	35
Tetrachloroethene	1.26	ND	0.785	1.04	62.5	82.5	8	10.0-156			27.6	39
1,2,3-Trimethylbenzene	1.26	ND	0.828	0.985	65.9	78.4	8	10.0-160			17.3	36
1,2,4-Trimethylbenzene	1.26	ND	0.847	1.00	67.4	79.9	8	10.0-160			17.0	36
Toluene	1.26	ND	0.847	1.11	67.4	88.0	8	10.0-156			26.6	38
1,1,2-Trichlorotrifluoroethane	1.26	ND	0.799	1.06	63.6	84.7	8	10.0-160			28.6	36
1,3,5-Trimethylbenzene	1.26	ND	0.818	1.05	65.1	83.4	8	10.0-160			24.6	38
1,2,3-Trichlorobenzene	1.26	ND	0.402	0.417	32.0	33.2	8	10.0-160			3.64	40
1,2,4-Trichlorobenzene	1.26	ND	0.686	0.843	54.6	67.1	8	10.0-160			20.5	40
1,1,1-Trichloroethane	1.26	ND	0.724	0.942	57.6	75.0	8	10.0-144			26.2	35
1,1,2-Trichloroethane	1.26	ND	1.12	1.22	88.9	97.0	8	10.0-160			8.63	35
Trichloroethene	1.26	ND	0.810	1.06	64.5	84.3	8	10.0-156			26.7	38
Trichlorofluoromethane	1.26	ND	0.949	1.23	75.5	97.6	8	10.0-160			25.5	40
Vinyl chloride	1.26	ND	0.719	0.987	57.2	78.6	8	10.0-160			31.4	37
Xylenes, Total	3.77	ND	2.40	3.04	63.6	80.7	8	10.0-160			23.7	38
(S) Toluene-d8					114	117		75.0-131				
(S) 4-Bromofluorobenzene					102	111		67.0-138				
(S) 1,2-Dichloroethane-d4					109	105		70.0-130				

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3651069-3 05/05/21 20:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,3-Trichlorobenzene	U		0.00733	0.0125
(S) Toluene-d8	106			75.0-131
(S) 4-Bromofluorobenzene	97.4			67.0-138
(S) 1,2-Dichloroethane-d4	90.1			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3651069-1 05/05/21 18:44 • (LCSD) R3651069-2 05/05/21 19:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,2,3-Trichlorobenzene	0.125	0.108	0.111	86.4	88.8	59.0-139			2.74	20
(S) Toluene-d8				103	105	75.0-131				
(S) 4-Bromofluorobenzene				96.1	99.2	67.0-138				
(S) 1,2-Dichloroethane-d4				94.7	93.9	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3650964-1 05/05/21 22:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	83.0			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650964-2 05/05/21 23:12 • (LCSD) R3650964-3 05/05/21 23:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1560	1540	104	103	50.0-150			1.29	20
(S) o-Terphenyl				134	121	52.0-156				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3651572-1 05/06/21 22:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	76.0			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3651572-2 05/06/21 23:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	48.8	97.6	50.0-150	
(S) o-Terphenyl			65.0	18.0-148	

L1346403-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346403-04 05/07/21 00:08 • (MS) R3651572-3 05/07/21 00:21 • (MSD) R3651572-4 05/07/21 00:34

Analyte	Spike Amount (dry) mg/kg	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	48.5	7.01	51.1	50.8	82.2	81.1	1	50.0-150			0.651	20
(S) o-Terphenyl					47.4	46.2		18.0-148				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3651696-1 05/06/21 09:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
PCB 1016	U		0.0118	0.0340
PCB 1221	U		0.0118	0.0340
PCB 1232	U		0.0118	0.0340
PCB 1242	U		0.0118	0.0340
PCB 1248	U		0.00738	0.0170
PCB 1254	U		0.00738	0.0170
PCB 1260	U		0.00738	0.0170
PCB 1268	U		0.00738	0.0170
(S) Decachlorobiphenyl	69.2			10.0-135
(S) Tetrachloro-m-xylene	64.7			10.0-139

Laboratory Control Sample (LCS)

(LCS) R3651696-2 05/06/21 09:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	0.167	0.126	75.4	37.0-145	
PCB 1016	0.167	0.132	79.0	36.0-141	
(S) Decachlorobiphenyl			74.2	10.0-135	
(S) Tetrachloro-m-xylene			67.9	10.0-139	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3649966-2 05/04/21 02:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	86.0			31.0-160
(S) 2-Fluorobiphenyl	90.0			48.0-148
(S) p-Terphenyl-d14	101			37.0-146

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3649966-1 05/04/21 02:13

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	2.00	1.69	84.5	67.0-150	
Acenaphthene	2.00	1.79	89.5	65.0-138	
Acenaphthylene	2.00	1.91	95.5	66.0-140	
Benzo(a)anthracene	2.00	1.75	87.5	61.0-140	
Benzo(a)pyrene	2.00	1.58	79.0	60.0-143	
Benzo(b)fluoranthene	2.00	1.71	85.5	58.0-141	
Benzo(g,h,i)perylene	2.00	1.54	77.0	52.0-153	
Benzo(k)fluoranthene	2.00	1.57	78.5	58.0-148	
Chrysene	2.00	1.69	84.5	64.0-144	
Dibenz(a,h)anthracene	2.00	1.55	77.5	52.0-155	
Fluoranthene	2.00	1.77	88.5	69.0-153	

Laboratory Control Sample (LCS)

(LCS) R3649966-1 05/04/21 02:13

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	2.00	1.85	92.5	64.0-136	
Indeno(1,2,3-cd)pyrene	2.00	1.58	79.0	54.0-153	
Naphthalene	2.00	1.61	80.5	61.0-137	
Phenanthrene	2.00	1.81	90.5	62.0-137	
Pyrene	2.00	1.79	89.5	60.0-142	
1-Methylnaphthalene	2.00	1.75	87.5	66.0-142	
2-Methylnaphthalene	2.00	1.66	83.0	62.0-136	
2-Chloronaphthalene	2.00	1.75	87.5	64.0-140	
(S) Nitrobenzene-d5			84.5	31.0-160	
(S) 2-Fluorobiphenyl			89.5	48.0-148	
(S) p-Terphenyl-d14			96.5	37.0-146	

L1346142-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346142-07 05/04/21 05:33 • (MS) R3649966-3 05/04/21 05:53 • (MSD) R3649966-4 05/04/21 06:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	1.90	ND	1.25	1.17	65.8	61.6	1	56.0-156			6.61	20
Acenaphthene	1.90	ND	1.79	1.76	94.2	92.6	1	44.0-153			1.69	20
Acenaphthylene	1.90	ND	1.84	1.82	96.8	95.8	1	53.0-150			1.09	20
Benzo(a)anthracene	1.90	ND	1.79	1.77	94.2	93.2	1	47.0-151			1.12	20
Benzo(a)pyrene	1.90	ND	1.29	1.21	67.9	63.7	1	45.0-146			6.40	20
Benzo(b)fluoranthene	1.90	ND	1.58	1.54	83.2	81.1	1	43.0-142			2.56	20
Benzo(g,h,i)perylene	1.90	ND	1.55	1.48	81.6	77.9	1	40.0-147			4.62	20
Benzo(k)fluoranthene	1.90	ND	1.55	1.47	81.6	77.4	1	43.0-148			5.30	21
Chrysene	1.90	ND	1.68	1.65	88.4	86.8	1	50.0-148			1.80	20
Dibenz(a,h)anthracene	1.90	ND	1.59	1.53	83.7	80.5	1	37.0-151			3.85	20
Fluoranthene	1.90	ND	1.84	1.81	96.8	95.3	1	56.0-157			1.64	20
Fluorene	1.90	ND	1.84	1.83	96.8	96.3	1	48.0-148			0.545	20
Indeno(1,2,3-cd)pyrene	1.90	ND	1.64	1.60	86.3	84.2	1	41.0-148			2.47	20
Naphthalene	1.90	ND	1.64	1.62	86.3	85.3	1	10.0-160			1.23	20
Phenanthrene	1.90	ND	1.79	1.75	94.2	92.1	1	47.0-147			2.26	20
Pyrene	1.90	ND	1.70	1.69	89.5	88.9	1	51.0-148			0.590	20
1-Methylnaphthalene	1.90	ND	1.76	1.75	92.6	92.1	1	21.0-160			0.570	20
2-Methylnaphthalene	1.90	ND	1.70	1.65	89.5	86.8	1	31.0-160			2.99	20
2-Chloronaphthalene	1.90	ND	1.76	1.74	92.6	91.6	1	52.0-148			1.14	20
(S) Nitrobenzene-d5					86.8	87.4		31.0-160				
(S) 2-Fluorobiphenyl					89.5	89.5		48.0-148				
(S) p-Terphenyl-d14					94.7	92.6		37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1346142-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346142-08 05/04/21 09:54 • (MS) R3649966-5 05/04/21 10:14 • (MSD) R3649966-6 05/04/21 10:34

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	1.90	0.0538	1.55	1.78	78.7	90.9	1	56.0-156			13.8	20
Acenaphthene	1.90	0.856	7.68	2.71	359	97.6	1	44.0-153	J5	J3	95.7	20
Acenaphthylene	1.90	ND	2.40	2.12	126	112	1	53.0-150			12.4	20
Benzo(a)anthracene	1.90	ND	2.03	1.82	107	95.8	1	47.0-151			10.9	20
Benzo(a)pyrene	1.90	ND	1.87	1.47	98.4	77.4	1	45.0-146		J3	24.0	20
Benzo(b)fluoranthene	1.90	ND	1.79	1.27	94.2	66.8	1	43.0-142		J3	34.0	20
Benzo(g,h,i)perylene	1.90	0.521	4.63	1.56	216	54.7	1	40.0-147	J5	J3	99.2	20
Benzo(k)fluoranthene	1.90	ND	3.22	1.30	169	68.4	1	43.0-148	J5	J3	85.0	21
Chrysene	1.90	ND	1.70	1.39	89.5	73.2	1	50.0-148		J3	20.1	20
Dibenz(a,h)anthracene	1.90	ND	1.01	1.07	53.2	56.3	1	37.0-151			5.77	20
Fluoranthene	1.90	ND	1.78	2.29	93.7	121	1	56.0-157		J3	25.1	20
Fluorene	1.90	0.500	5.17	2.40	246	100	1	48.0-148	J5	J3	73.2	20
Indeno(1,2,3-cd)pyrene	1.90	ND	1.73	1.26	91.1	66.3	1	41.0-148		J3	31.4	20
Naphthalene	1.90	ND	1.70	1.53	89.5	80.5	1	10.0-160			10.5	20
Phenanthrene	1.90	ND	2.13	1.59	112	83.7	1	47.0-147		J3	29.0	20
Pyrene	1.90	0.392	4.12	1.74	196	70.9	1	51.0-148	J5	J3	81.2	20
1-Methylnaphthalene	1.90	0.315	3.83	2.06	185	91.8	1	21.0-160	J5	J3	60.1	20
2-Methylnaphthalene	1.90	ND	1.94	1.69	102	88.9	1	31.0-160			13.8	20
2-Chloronaphthalene	1.90	ND	1.36	1.60	71.6	84.2	1	52.0-148			16.2	20
(S) Nitrobenzene-d5					103	86.3		31.0-160				
(S) 2-Fluorobiphenyl					67.4	81.6		48.0-148				
(S) p-Terphenyl-d14					82.1	76.3		37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3650543-2 05/05/21 00:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	95.9			14.0-149
(S) 2-Fluorobiphenyl	91.0			34.0-125
(S) p-Terphenyl-d14	118			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3650543-1 05/05/21 00:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0724	90.5	50.0-126	
Acenaphthene	0.0800	0.0663	82.9	50.0-120	
Acenaphthylene	0.0800	0.0723	90.4	50.0-120	
Benzo(a)anthracene	0.0800	0.0724	90.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0634	79.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0630	78.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0656	82.0	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0703	87.9	49.0-125	
Chrysene	0.0800	0.0728	91.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0696	87.0	47.0-125	
Fluoranthene	0.0800	0.0717	89.6	49.0-129	



Laboratory Control Sample (LCS)

(LCS) R3650543-1 05/05/21 00:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0698	87.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0619	77.4	46.0-125	
Naphthalene	0.0800	0.0617	77.1	50.0-120	
Phenanthrene	0.0800	0.0692	86.5	47.0-120	
Pyrene	0.0800	0.0753	94.1	43.0-123	
1-Methylnaphthalene	0.0800	0.0645	80.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0624	78.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0663	82.9	50.0-120	
(S) Nitrobenzene-d5			106	14.0-149	
(S) 2-Fluorobiphenyl			94.7	34.0-125	
(S) p-Terphenyl-d14			118	23.0-120	

L1346533-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346533-16 05/05/21 03:14 • (MS) R3650543-3 05/05/21 03:29 • (MSD) R3650543-4 05/05/21 03:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0792	ND	0.0680	0.0694	85.9	86.8	1	10.0-145			2.04	30
Acenaphthene	0.0792	ND	0.0635	0.0643	80.2	80.4	1	14.0-127			1.25	27
Acenaphthylene	0.0792	ND	0.0704	0.0700	88.9	87.5	1	21.0-124			0.570	25
Benzo(a)anthracene	0.0792	ND	0.0677	0.0694	85.5	86.8	1	10.0-139			2.48	30
Benzo(a)pyrene	0.0792	ND	0.0596	0.0638	75.3	79.8	1	10.0-141			6.81	31
Benzo(b)fluoranthene	0.0792	ND	0.0580	0.0598	73.2	74.8	1	10.0-140			3.06	36
Benzo(g,h,i)perylene	0.0792	ND	0.0632	0.0629	79.8	78.6	1	10.0-140			0.476	33
Benzo(k)fluoranthene	0.0792	ND	0.0654	0.0643	82.6	80.4	1	10.0-137			1.70	31
Chrysene	0.0792	ND	0.0685	0.0684	86.5	85.5	1	10.0-145			0.146	30
Dibenz(a,h)anthracene	0.0792	ND	0.0664	0.0671	83.8	83.9	1	10.0-132			1.05	31
Fluoranthene	0.0792	ND	0.0659	0.0677	83.2	84.6	1	10.0-153			2.69	33
Fluorene	0.0792	ND	0.0652	0.0665	82.3	83.1	1	11.0-130			1.97	29
Indeno(1,2,3-cd)pyrene	0.0792	ND	0.0601	0.0598	75.9	74.8	1	10.0-137			0.500	32
Naphthalene	0.0792	ND	0.0622	0.0631	78.5	78.9	1	10.0-135			1.44	27
Phenanthrene	0.0792	ND	0.0656	0.0667	82.8	83.4	1	10.0-144			1.66	31
Pyrene	0.0792	ND	0.0708	0.0712	89.4	89.0	1	10.0-148			0.563	35
1-Methylnaphthalene	0.0792	ND	0.0651	0.0639	82.2	79.9	1	10.0-142			1.86	28
2-Methylnaphthalene	0.0792	ND	0.0638	0.0611	80.6	76.4	1	10.0-137			4.32	28
2-Chloronaphthalene	0.0792	ND	0.0651	0.0651	82.2	81.4	1	29.0-120			0.000	24
(S) Nitrobenzene-d5					92.4	95.6		14.0-149				
(S) 2-Fluorobiphenyl					84.6	85.1		34.0-125				
(S) p-Terphenyl-d14					104	102		23.0-120				

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3652372-2 05/09/21 11:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	32.1			14.0-149
(S) 2-Fluorobiphenyl	48.4			34.0-125
(S) p-Terphenyl-d14	79.9			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3652372-1 05/09/21 10:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0457	57.1	50.0-126	
Acenaphthene	0.0800	0.0526	65.8	50.0-120	
Acenaphthylene	0.0800	0.0504	63.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0466	58.3	45.0-120	
Benzo(a)pyrene	0.0800	0.0502	62.8	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0558	69.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0620	77.5	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0558	69.8	49.0-125	
Chrysene	0.0800	0.0554	69.3	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0588	73.5	47.0-125	
Fluoranthene	0.0800	0.0542	67.8	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3652372-1 05/09/21 10:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0571	71.4	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0526	65.8	46.0-125	
Naphthalene	0.0800	0.0517	64.6	50.0-120	
Phenanthrene	0.0800	0.0537	67.1	47.0-120	
Pyrene	0.0800	0.0549	68.6	43.0-123	
1-Methylnaphthalene	0.0800	0.0577	72.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0519	64.9	50.0-120	
2-Chloronaphthalene	0.0800	0.0489	61.1	50.0-120	
(S) Nitrobenzene-d5			39.8	14.0-149	
(S) 2-Fluorobiphenyl			57.7	34.0-125	
(S) p-Terphenyl-d14			85.7	23.0-120	

L1344415-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1344415-01 05/09/21 11:28 • (MS) R3652372-3 05/09/21 11:48 • (MSD) R3652372-4 05/09/21 12:08

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0972	ND	0.0573	0.0526	58.9	54.3	1	10.0-145			8.54	30
Acenaphthene	0.0972	ND	0.0566	0.0591	58.2	61.1	1	14.0-127			4.26	27
Acenaphthylene	0.0972	ND	0.0580	0.0584	59.6	60.3	1	21.0-124			0.636	25
Benzo(a)anthracene	0.0972	ND	0.0819	0.0659	78.3	62.1	1	10.0-139			21.7	30
Benzo(a)pyrene	0.0972	ND	0.0832	0.0678	77.9	62.4	1	10.0-141			20.4	31
Benzo(b)fluoranthene	0.0972	0.0162	0.104	0.0833	90.2	69.4	1	10.0-140			22.0	36
Benzo(g,h,i)perylene	0.0972	0.00791	0.0856	0.0736	79.9	67.8	1	10.0-140			15.2	33
Benzo(k)fluoranthene	0.0972	0.00740	0.0824	0.0685	77.2	63.1	1	10.0-137			18.5	31
Chrysene	0.0972	0.0125	0.106	0.0810	95.9	70.8	1	10.0-145			26.6	30
Dibenz(a,h)anthracene	0.0972	ND	0.0643	0.0674	66.1	69.6	1	10.0-132			4.69	31
Fluoranthene	0.0972	0.0294	0.132	0.0958	106	68.6	1	10.0-153			31.9	33
Fluorene	0.0972	ND	0.0620	0.0634	63.7	65.6	1	11.0-130			2.36	29
Indeno(1,2,3-cd)pyrene	0.0972	0.00750	0.0766	0.0660	71.1	60.5	1	10.0-137			14.9	32
Naphthalene	0.0972	ND	0.0906	0.0758	80.8	65.9	1	10.0-135			17.8	27
Phenanthrene	0.0972	0.0418	0.147	0.109	108	69.5	1	10.0-144			29.5	31
Pyrene	0.0972	0.0279	0.122	0.0906	97.1	64.8	1	10.0-148			29.8	35
1-Methylnaphthalene	0.0972	ND	0.111	0.0976	91.0	77.9	1	10.0-142			12.6	28
2-Methylnaphthalene	0.0972	ND	0.101	0.0882	85.9	73.2	1	10.0-137			13.4	28
2-Chloronaphthalene	0.0972	ND	0.0527	0.0548	53.6	56.1	1	29.0-120			3.90	24
(S) Nitrobenzene-d5					33.6	33.8		14.0-149				
(S) 2-Fluorobiphenyl					42.6	50.2		34.0-125				
(S) p-Terphenyl-d14					74.9	74.7		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

GLOSSARY OF TERMS

DRAFT

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# ACCREDITATIONS & LOCATIONS

DRAFT

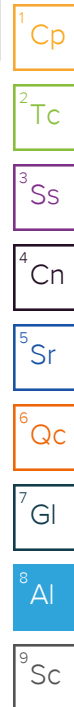
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>  200 N. Wasco Ct. Hood River, OR 97031				Billing Information:  Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				Analysis / Container / Preservative										Chain of Custody Page <u>1</u> of <u>2</u>	
Report to: <b>Jon White</b>				Email To: msba@msbaenvironmental.com;jwhite@msbae				<div style="text-align: right;">  <p><b>Pace Analytical*</b> National Center for Testing &amp; Innovation</p> <p>12065 Lebanon Road Mt Juliet, TN 37122 Phone: 615-758-5858 Alt: 800-767-5859 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubfs/pas-standard-terms.pdf">https://info.pacelabs.com/hubfs/pas-standard-terms.pdf</a></p> </div>										Pres Chk	
Project Description: <b>North Star Casteel</b>				City/State Collected: <b>Vancouver, WA</b>		Please Circle: PT MT CT ET													
Phone: <b>541-387-4422</b>		Client Project # <b>North Star</b>		Lab Project # <b>MSBAHROR-NSTARCASTEE</b>															
Collected by (print): <b>Jon White</b>		Site/Facility ID #		P.O. # <b>North Star</b>															
Collected by (signature): <i>Josh Owen for Jon White</i>		<b>Rush?</b> (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #		Date Results Needed		No. of Cntrs											
Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>																			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time													
AOPC 1-Fill 1		Grab	SS	0.5	4/27/21	14:00	3												
AOPC 7-Fill			SS	0.5		13:57	3												
S1-0			SS	0		09:18	3	✓		✓	✓	✓		✓	✓				
S2-1.5			SS	1.5		09:38	2			✓									
S3-0			SS	0		10:12	2			✓									
S4-0.5			SS	0.5		10:26	2			✓			✓						
S5-0			SS	0		12:40	2			✓									
S6-1			SS	1		12:54	2			✓									
S7-0			SS	0		13:01	2			✓									
S8-3.5			SS	3.5		14:47	3			✓		✓							
* Matrix: SS - Soil   AIR - Air   F - Filter GW - Groundwater   B - Bioassay WW - Wastewater DW - Drinking Water OT - Other		Remarks:		pH _____ Temp _____ Flow _____ Other _____															
Samples returned via: ___ UPS ___ FedEx ___ Courier		Tracking # <b>9883 0086 3604</b>																	
Relinquished by: (Signature) <i>Josh Owen</i>		Date: <b>4/29/21</b>	Time: <b>15:30</b>	Received by: (Signature)		Trip Blank Received: <b>Yes/No</b> <b>1</b> HCL / MeOH TBR		<b>Sample Receipt Checklist</b> COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N											
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: <b>AVAR</b> °C <b>4.3:2:4.1</b>										Bottles Received: <b>44</b>		If preservation required by Login: Date/Time	
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) <i>Wendy D...</i>		Date: <b>4/30/21</b>										Time: <b>9:15</b>		Condition: <b>05-001</b> NCF / <b>OR</b>	





# DRAFT

---

2) Sample Date 4/27/21 (#L1350830)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1350830  
Samples Received: 05/01/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

Cp: Cover Page	1	<sup>1</sup> Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	<sup>2</sup> Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	<sup>3</sup> Ss
S1-0    L1350830-01	5	
Qc: Quality Control Summary	6	<sup>4</sup> Cn
Total Solids by Method 2540 G-2011	6	<sup>5</sup> Sr
Wet Chemistry by Method 7199	7	
Gl: Glossary of Terms	8	<sup>6</sup> Qc
Al: Accreditations & Locations	9	<sup>7</sup> Gl
Sc: Sample Chain of Custody	10	<sup>8</sup> Al
		<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/27/21 09:18

Received date/time  
05/01/21 10:00

S1-0 L1350830-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664626	1	05/05/21 12:24	05/05/21 12:34	JAV	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1669705	1	05/13/21 23:42	05/14/21 13:40	MSP	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1350830

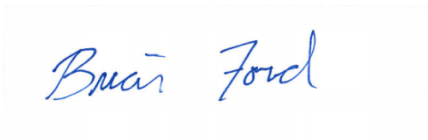
DATE/TIME:

05/17/21 10:10

PAGE:

3 of 11

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S1-0

Collected date/time: 04/27/21 09:18

## SAMPLE RESULTS - 01

L1350830

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	79.9		1	05/05/2021 12:34	<a href="#">WG1664626</a>

1 Cp

2 Tc

## Wet Chemistry by Method 7199

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.25	1	05/14/2021 13:40	<a href="#">WG1669705</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3650972-1 05/05/21 12:34

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

L1346559-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1346559-07 05/05/21 12:34 • (DUP) R3650972-3 05/05/21 12:34

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	92.5	92.9	1	0.389		10

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R3650972-2 05/05/21 12:34

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3654626-1 05/14/21 10:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1346831-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1346831-01 05/14/21 11:14 • (DUP) R3654626-3 05/14/21 11:20

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP RPD Limits %	DUP Qualifier
Hexavalent Chromium	ND	ND	1	0.000	20	

Laboratory Control Sample (LCS)

(LCS) R3654626-2 05/14/21 11:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	11.8	118	80.0-120	

L1350828-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1350828-01 05/14/21 13:09 • (MS) R3654626-7 05/14/21 13:24

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	675	ND	515	76.4	50	75.0-125	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

# ACCREDITATIONS & LOCATIONS

DRAFT

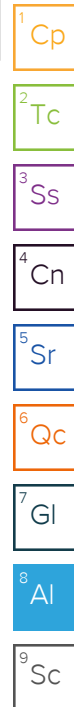
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:


L1350830

DATE/TIME:

05/17/21 10:10

PAGE:

9 of 11

Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>		Billing Information: Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 1 of 2											
200 N. Wasco Ct. Hood River, OR 97031		Email To: msba@msbaenvironmental.com;jwhite@msbae														 120KS Lebanon Road Mt Juliet, TN 37122 Phone: 615-756-5858 Alt: 800-767-5859 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.paceanalytical.com/hubfs/pac-standards-terms.pdf">https://info.paceanalytical.com/hubfs/pac-standards-terms.pdf</a>											
Report to: <b>Jon White</b>		City/State Collected: <b>Vancouver, WA</b>		Please Circle: PT MT CT ET																							
Project Description: <b>North Star Casteel</b>		Client Project # <b>North Star</b>		Lab Project # <b>MSBAHROR-NSTARCASTEE</b>																							
Phone: <b>541-387-4422</b>		Site/Facility ID #		P.O. # <b>North Star</b>																							
Collected by (print): <b>Jon White</b>		Collected by (signature): <i>Josh Owen for Jon White</i>		Quote #																							
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Rush? (Lab MUST Be Notified) Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/>		Date Results Needed																							
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	As,Cd,Cr,Pb 6020 8ozClr-NoPres	Cr6 7199 2ozClr-NoPres	NWT PHDX NOSGT 8ozClr-NoPres	PAHs 8270ESIM 8ozClr-NoPres	VOCs 8260D 40mlAmb/MeOH10ml/Syr (Full list)	water PAHs 8270ESIM 40mlAmb-NoPres-WT	RCRA 8 mch 15 (total)	NWT PH-GX	PCBS	SDG # <b>1346559</b>	Table # <b>L1350830</b>	Acctnum: <b>MSBAHROR</b>	Template: <b>T185028</b>	Prelogin: <b>P839348</b>	PM: <b>110 - Brian Ford</b>	PB: <b>DN 4/6/21</b>	Shipped Via:	Remarks	Sample # (lab only)	
AOPC 1-Fill 1		Grab	SS	0.5	4/27/21	14:00	3																				
AOPC 7-Fill			SS	0.5		13:57	3																				
S1-0			SS	0		09:18	3	✓		✓	✓	✓			✓	✓											
S2-1.5			SS	1.5		09:38	2				✓																
S3-0			SS	0		10:12	2				✓																
S4-0.5			SS	0.5		10:26	2				✓			✓													
S5-0			SS	0		12:40	2				✓																
S6-1			SS	1		12:54	2				✓																
S7-0			SS	0		13:01	2				✓																
S8-3.5			SS	3.5		14:47	3			✓		✓															
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other		Remarks:		Samples returned via: ___ UPS ___ FedEx ___ Courier		Tracking # <b>4883 0086 3604</b>		pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N																	
Relinquished by: (Signature) <i>Josh Owen</i>		Date: <b>4/29/21</b>	Time: <b>15:30</b>	Received by: (Signature)		Trip Blank Received: Yes/No <b>1</b> HCL/MeOH TBR		Temp: <b>14.2</b> °C Bottles Received: <b>44</b>		If preservation required by Login: Date/Time																	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)																							

R3/R4/RX/EX

L1346559 MSBAHROR re-log

Please re-log L1346559-01 (S1-o) for CR6IC,TS. Transfer TS. RX due 05/18.

Time estimate: oh      Time spent: oh

Members

 Brian Ford

L1346559 MSBAHRO re-log

Please re-log L1346559-01 (S1-o) for CR6IC,TS.

Time estimate: oh      Time spent: oh

Members

 Brian Ford

L1346559 MSBAHROR re-log

Please re-log L1346559-01 (S1-o) for CR6IC,TS.

Time estimate: oh      Time spent: oh

Members

 Brian Ford

# DRAFT

---

3) Sample Date 4/27/21 (#GG-724)



# ❖ CERTIFIED ENVIRONMENTAL CONSULTING, LLC ❖

## SOIL SAMPLE ANALYSIS REPORT

**CLIENT:** MARTIN S BURCK ASSOCIATES, INC.

MR. JOSH OWEN  
200 NORTH WASCO COURT  
HOOD RIVER, OREGON 97031

**SOURCE:**

NORTH STAR CASTEEL, 120 WEST 13<sup>TH</sup>,  
VANCOUVER, WASHINGTON

**SAMPLED BY:**

CLIENT

**LAB #**

GG-724

**ANALYZED BY:**

KYLER SPEARS

**DATE SAMPLED:** 04-27-21

**DATE RECEIVED:** 04-27-21

**DATE COMPLETED:** 04-30-21

ANALYTICAL METHOD: EPA 600/R-93/116, 40 CFR Part 763, Subpart E, Appendix E, Section #1, PLM/Dispersion Staining

SAMPLE ID #	SAMPLE DESCRIPTION	SAMPLE LOCATION	ASBESTOS PRESENT/ABSENT	OTHER MATERIAL
1	GRAY/BROWN SOIL	AOPC 5 EXCAVATION	ASBESTOS PRESENT	CALCIUM CARBONATE, FIBERGLASS, CELLULOSE, AGGREGATE, DEBRIS, ADHESIVE, WOOD

**ANALYST:**

**REVIEWED BY:**

DEVIATION FROM METHOD: NONE.  
PERCENTAGES ARE ESTIMATES.

TEST RESULTS PERTAIN ONLY TO ITEMS TESTED.

\* DETECTION LIMIT IS LESS THAN 1% ASBESTOS.

NON-ASBESTOS MATERIALS ARE NOT NECESSARILY LISTED.

**PLEASE CHOOSE HOW SOON YOU WANT RESULTS**  
**❖ CERTIFIED ENVIRONMENTAL CONSULTING, LLC. ❖**

615 SE CHKALOV DRIVE SUITE 12, VANCOUVER, WASHINGTON 98683-5280  
(503) 221-7904 PHONE (360) 254-9385 FAX-(360) 891-9633

LAB# 66-724 CLIENT: Martin S. Burck Assoc, Inc. CONTACT: Josh Owen SAMPLE DATE: 4/27/21  
BILLING ADDRESS: 200 N. Wisco Ct. CITY/STATE: Head River, OR ZIP CODE: 97031  
PHONE: 541 387 4422 EMAIL: jowen@msbaenvironmental.com FAX: \_\_\_\_\_ ANALYSIS REQUESTED: Asbestos

SAMPLED BY: [Signature] PROJECT NAME AND ADDRESS: North Star Casket, 1200 W. 13th CITY/STATE: Vancouver, WA  
**PLEASE CHOOSE HOW SOON YOU WANT RESULTS FOR ASBESTOS!** NORMAL [ ] (END OF 3<sup>RD</sup> BUSINESS DAY) RUSH [ ] (END OF NEXT BUSINESS DAY) TURN AROUND TIME IS FOR ASBESTOS ONLY. ← PICK A TURN AROUND TIME!

SAMPLE #	DESCRIPTION OF MATERIAL (I.E. SHEET VINYL , FLOOR TILE, CEILING TEXTURE WITH COLOR)	SAMPLE LOCATION (WHICH ROOM OR AREA THE SAMPLE WAS COLLECTED)
1	Gray material in Soil	AOPC 5 excavation

SENT TO: \_\_\_\_\_ RELINQUISHED BY (PRINT): Josh Owen RELINQUISHED BY (SIGNATURE): [Signature]  
RECEIVED BY: [Signature] DATE RECEIVED: 4-27-21 PAGE 1 OF 1

# DRAFT

---

4) Sample Date 4/30/21 (#GG-754)

# ❖ CERTIFIED ENVIRONMENTAL CONSULTING, LLC ❖

## BULK SAMPLE ANALYSIS REPORT

**CLIENT:** MARTIN S BURCK ASSOCIATES, INC.

MR. JOSH OWEN  
200 NORTH WASCO COURT  
HOOD RIVER, OREGON 97031

**SOURCE:** NORTH STAR CASTEEL, 1200 WEST 13<sup>TH</sup>  
STREET, VANCOUVER, WASHINGTON

**SAMPLED BY:** CLIENT

**LAB #**

GG-754

**ANALYZED BY:** EMSL ANALYTICAL, INC.  
(NVLAP LAB CODE #101048-3)

**DATE SAMPLED:** 04-30-21

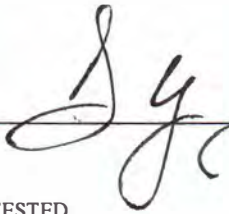
**DATE RECEIVED:** 05-03-21

**DATE COMPLETED:** 05-11-21

ANALYTICAL METHOD: ASBESTOS ANALYSIS OF SOILS VIA EPA 600/R-93/116, USING PLM AND MILLING PREP.  
QUANTITATION USING 400 POINT COUNT PROCEDURE

SAMPLE ID #	SAMPLE DESCRIPTION	SAMPLE LOCATION	% FIBROUS	% NON-FIBROUS	ASBESTOS CONTENT % TYPE
1	CLAYEY LIGHT GRAY SOIL	WITHIN AOPC 5	---	100.0% NON-FIBROUS (OTHER)	NONE DETECTED

**REVIEWED BY:** \_\_\_\_\_



DEVIATION FROM METHOD: NONE.

PERCENTAGES ARE ESTIMATES.

TEST RESULTS PERTAIN ONLY TO ITEMS TESTED.

\* DETECTION LIMIT IS 0.1%

NON-ASBESTOS MATERIALS ARE NOT NECESSARILY LISTED.



# ❖ CERTIFIED ENVIRONMENTAL CONSULTING, LLC. ❖

615 SE CHKALOV DRIVE SUITE 12, VANCOUVER, WASHINGTON 98683-5280  
(503) 221-7904 PHONE (360) 254-9385 FAX-(360) 891-9633

LAB# 66 754 CLIENT: Martin S. Burck Associates, Inc CONTACT: Josh Owen SAMPLE DATE: 4/30/21

BILLING ADDRESS: 200 N Wasco Ct. CITY/STATE: Hood River ZIP CODE: 97031

PHONE: 541 387 4422 EMAIL: jowen@msbaenvironmental.com FAX: 541 387 4813 ANALYSIS REQUESTED: Asbestos (quantified)

SAMPLED BY: Jon White PROJECT NAME AND ADDRESS: North Star Casteel, 1200 W 13th St CITY/STATE: Vancouver, WA

NORMAL [ 1 ] (END OF 1<sup>ST</sup> BUSINESS DAY) RUSH [    ] (END OF NEXT BUSINESS DAY)  
[ 5 day rush ]

SAMPLE #	DESCRIPTION OF MATERIAL (I.E. SHEET VINYL , FLOOR TILE, CEILING TEXTURE WITH COLOR)	SAMPLE LOCATION (WHICH ROOM OR AREA THE SAMPLE WAS COLLECTED)
1	Clayey light gray material found in soil	Within AOPC 5

SENT TO: Certified Environmental Consultancy RELINQUISHED BY (PRINT): Jon White RELINQUISHED BY (SIGNATURE)  17:00

RECEIVED BY: via Overbox DATE RECEIVED: 5-3-21

United States Department of Commerce  
National Institute of Standards and Technology



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## Certificate of Accreditation to ISO/IEC 17025:2017

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NVLAP LAB CODE: 101048-3

**EMSL Analytical, Inc.**  
San Leandro, CA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

### **Asbestos Fiber Analysis**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

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2020-07-01 through 2021-06-30

Effective Dates



---

For the National Voluntary Laboratory Accreditation Program

**National Voluntary  
Laboratory Accreditation Program**



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**EMSL Analytical, Inc.**  
464 McCormick St.  
San Leandro, CA 94577  
Mr. Michael DeCavallas  
Phone: 510-895-3675  
Email: mdecavallas@emsl.com  
<http://www.emsl.com>

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 101048-3**

**Bulk Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A01	EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

**Airborne Asbestos Analysis**

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

A handwritten signature in black ink, reading "Dana S. Herman".

*For the National Voluntary Laboratory Accreditation Program*



# DRAFT

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5) Sample Date 4/28/21 (#L1346427)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1346427  
Samples Received: 04/30/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

<b>Cp: Cover Page</b>	<b>1</b>
<b>Tc: Table of Contents</b>	<b>2</b>
<b>Ss: Sample Summary</b>	<b>3</b>
<b>Cn: Case Narrative</b>	<b>5</b>
<b>Sr: Sample Results</b>	<b>6</b>
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<b>S11-1 L1346427-02</b>	<b>7</b>
<b>S12-0 L1346427-03</b>	<b>8</b>
<b>S13-0 L1346427-04</b>	<b>9</b>
<b>S14-1 L1346427-05</b>	<b>10</b>
<b>S15-0 L1346427-06</b>	<b>11</b>
<b>S16-1 L1346427-07</b>	<b>12</b>
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<b>Qc: Quality Control Summary</b>	<b>15</b>
<b>Total Solids by Method 2540 G-2011</b>	<b>15</b>
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<b>Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM</b>	<b>19</b>
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<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/28/21 10:00

Received date/time  
04/30/21 09:15

## S1-0.5 L1346427-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	40	05/06/21 09:40	05/07/21 03:24	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	400	05/06/21 09:40	05/07/21 14:49	WCR	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/28/21 07:49

Received date/time  
04/30/21 09:15

## S11-1 L1346427-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 01:59	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/28/21 08:02

Received date/time  
04/30/21 09:15

## S12-0 L1346427-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 05:43	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/28/21 10:06

Received date/time  
04/30/21 09:15

## S13-0 L1346427-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	20	05/06/21 09:40	05/07/21 02:45	DMG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/28/21 10:30

Received date/time  
04/30/21 09:15

## S14-1 L1346427-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	40	05/06/21 09:40	05/07/21 02:58	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 06:28	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/28/21 10:37

Received date/time  
04/30/21 09:15

## S15-0 L1346427-06 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	40	05/06/21 09:40	05/07/21 03:11	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664105	1	05/04/21 19:08	05/05/21 06:43	AAT	Mt. Juliet, TN

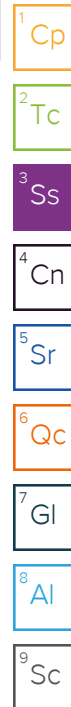
Collected by  
Jon White

Collected date/time  
04/28/21 11:49

Received date/time  
04/30/21 09:15

## S16-1 L1346427-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	20	05/06/21 09:40	05/07/21 14:36	WCR	Mt. Juliet, TN



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/28/21 12:04

Received date/time  
04/30/21 09:15

S17-0 L1346427-08 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664147	1	05/04/21 16:49	05/04/21 17:04	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664922	1	05/06/21 09:40	05/07/21 00:48	DMG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/28/21 12:04

Received date/time  
04/30/21 09:15

EB-2 L1346427-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1664918	1	05/05/21 17:11	05/06/21 01:13	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1663717	1	05/04/21 18:38	05/05/21 01:00	AAT	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1346427

DATE/TIME:

05/07/21 18:09

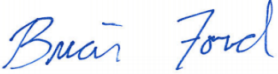
PAGE:

4 of 25

# CASE NARRATIVE

# DRAFT

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

S1-0.5

Collected date/time: 04/28/21 10:00

## SAMPLE RESULTS - 01

L1346427

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.6		1	05/04/2021 17:33	<a href="#">WG1664141</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	15100		1750	400	05/07/2021 14:49	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	1940		436	40	05/07/2021 03:24	<a href="#">WG1664922</a>
(S) o-Terphenyl	7660	<a href="#">J7</a>	18.0-148		05/07/2021 14:49	<a href="#">WG1664922</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		05/07/2021 03:24	<a href="#">WG1664922</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.2		1	05/04/2021 17:33	<a href="#">WG1664141</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Acenaphthene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Acenaphthylene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Benzo(a)anthracene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Benzo(a)pyrene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Chrysene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Fluoranthene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Fluorene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Naphthalene	ND		0.0235	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Phenanthrene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
Pyrene	ND		0.00704	1	05/05/2021 01:59	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0235	1	05/05/2021 01:59	<a href="#">WG1664105</a>
2-Methylnaphthalene	ND		0.0235	1	05/05/2021 01:59	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.0235	1	05/05/2021 01:59	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	69.8		14.0-149		05/05/2021 01:59	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	68.9		34.0-125		05/05/2021 01:59	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	90.6		23.0-120		05/05/2021 01:59	<a href="#">WG1664105</a>

S12-0

Collected date/time: 04/28/21 08:02

SAMPLE RESULTS - 03

L1346427

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.1		1	05/04/2021 17:33	<a href="#">WG1664141</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Acenaphthene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Acenaphthylene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Benzo(a)anthracene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Benzo(a)pyrene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Chrysene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Fluoranthene	0.00645		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Fluorene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	ND		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Naphthalene	0.0271		0.0210	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Phenanthrene	0.00721		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
Pyrene	0.00712		0.00631	1	05/05/2021 05:43	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0210	1	05/05/2021 05:43	<a href="#">WG1664105</a>
2-Methylnaphthalene	ND		0.0210	1	05/05/2021 05:43	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.0210	1	05/05/2021 05:43	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	88.4		14.0-149		05/05/2021 05:43	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	75.9		34.0-125		05/05/2021 05:43	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	100		23.0-120		05/05/2021 05:43	<a href="#">WG1664105</a>

S13-0

Collected date/time: 04/28/21 10:06

## SAMPLE RESULTS - 04

L1346427

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.5		1	05/04/2021 17:33	<a href="#">WG1664141</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	165		89.4	20	05/07/2021 02:45	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	ND		223	20	05/07/2021 02:45	<a href="#">WG1664922</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		05/07/2021 02:45	<a href="#">WG1664922</a>

## Sample Narrative:

L1346427-04 WG1664922: Cannot run at lower dilution due to viscosity of extract

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	05/04/2021 17:33	<a href="#">WG1664141</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Diesel Range Organics (DRO)	ND		171	40	05/07/2021 02:58	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	752		428	40	05/07/2021 02:58	<a href="#">WG1664922</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		05/07/2021 02:58	<a href="#">WG1664922</a>

## Sample Narrative:

L1346427-05 WG1664922: Cannot run at lower dilution due to viscosity of extract

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Acenaphthene	ND		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Acenaphthylene	ND		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Benzo(a)anthracene	0.0213		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Benzo(a)pyrene	0.0379		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	0.0544		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	0.0330		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	0.0155		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Chrysene	0.0225		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	0.00837		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Fluoranthene	0.0356		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Fluorene	ND		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	0.0326		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Naphthalene	0.0219		0.0214	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Phenanthrene	0.0183		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
Pyrene	0.0361		0.00642	1	05/05/2021 06:28	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0214	1	05/05/2021 06:28	<a href="#">WG1664105</a>
2-Methylnaphthalene	ND		0.0214	1	05/05/2021 06:28	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.0214	1	05/05/2021 06:28	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	86.1		14.0-149		05/05/2021 06:28	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	84.3		34.0-125		05/05/2021 06:28	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	98.2		23.0-120		05/05/2021 06:28	<a href="#">WG1664105</a>

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.1		1	05/04/2021 17:33	<a href="#">WG1664141</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		178	40	05/07/2021 03:11	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	446		444	40	05/07/2021 03:11	<a href="#">WG1664922</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		05/07/2021 03:11	<a href="#">WG1664922</a>

3 Ss

4 Cn

5 Sr

## Sample Narrative:

L1346427-06 WG1664922: Cannot run at lower dilution due to viscosity of extract

6 Qc

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Anthracene	0.0120		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Acenaphthene	ND		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Acenaphthylene	ND		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Benzo(a)anthracene	0.0971		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Benzo(a)pyrene	0.140		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Benzo(b)fluoranthene	0.185		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Benzo(g,h,i)perylene	0.0817		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Benzo(k)fluoranthene	0.0641		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Chrysene	0.106		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Dibenz(a,h)anthracene	0.0212		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Fluoranthene	0.158		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Fluorene	ND		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Indeno(1,2,3-cd)pyrene	0.101		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Naphthalene	ND		0.0222	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Phenanthrene	0.0469		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
Pyrene	0.133		0.00666	1	05/05/2021 06:43	<a href="#">WG1664105</a>
1-Methylnaphthalene	ND		0.0222	1	05/05/2021 06:43	<a href="#">WG1664105</a>
2-Methylnaphthalene	ND		0.0222	1	05/05/2021 06:43	<a href="#">WG1664105</a>
2-Chloronaphthalene	ND		0.0222	1	05/05/2021 06:43	<a href="#">WG1664105</a>
(S) Nitrobenzene-d5	80.9		14.0-149		05/05/2021 06:43	<a href="#">WG1664105</a>
(S) 2-Fluorobiphenyl	81.7		34.0-125		05/05/2021 06:43	<a href="#">WG1664105</a>
(S) p-Terphenyl-d14	98.6		23.0-120		05/05/2021 06:43	<a href="#">WG1664105</a>

7 Gl

8 Al

9 Sc

S16-1

Collected date/time: 04/28/21 11:49

## SAMPLE RESULTS - 07

L1346427

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.7		1	05/04/2021 17:33	<a href="#">WG1664141</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		89.2	20	05/07/2021 14:36	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	268		223	20	05/07/2021 14:36	<a href="#">WG1664922</a>
(S) o-Terphenyl	89.1	<a href="#">J7</a>	18.0-148		05/07/2021 14:36	<a href="#">WG1664922</a>

## Sample Narrative:

L1346427-07 WG1664922: Cannot run at lower dilution due to viscosity of extract

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S17-0

Collected date/time: 04/28/21 12:04

## SAMPLE RESULTS - 08

L1346427

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.2		1	05/04/2021 17:04	<a href="#">WG1664147</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	22.0		4.20	1	05/07/2021 00:48	<a href="#">WG1664922</a>
Residual Range Organics (RRO)	159		10.5	1	05/07/2021 00:48	<a href="#">WG1664922</a>
(S) o-Terphenyl	70.6		18.0-148		05/07/2021 00:48	<a href="#">WG1664922</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	05/06/2021 01:13	<a href="#">WG1664918</a>
Residual Range Organics (RRO)	ND		250	1	05/06/2021 01:13	<a href="#">WG1664918</a>
(S) o-Terphenyl	80.5		52.0-156		05/06/2021 01:13	<a href="#">WG1664918</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Acenaphthene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Acenaphthylene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Benzo(a)anthracene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Benzo(a)pyrene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Benzo(b)fluoranthene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Benzo(g,h,i)perylene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Benzo(k)fluoranthene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Chrysene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Dibenz(a,h)anthracene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Fluoranthene	ND		0.100	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Fluorene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Naphthalene	ND		0.250	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Phenanthrene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
Pyrene	ND		0.0500	1	05/05/2021 01:00	<a href="#">WG1663717</a>
1-Methylnaphthalene	ND		0.250	1	05/05/2021 01:00	<a href="#">WG1663717</a>
2-Methylnaphthalene	ND		0.250	1	05/05/2021 01:00	<a href="#">WG1663717</a>
2-Chloronaphthalene	ND		0.250	1	05/05/2021 01:00	<a href="#">WG1663717</a>
(S) Nitrobenzene-d5	87.0		31.0-160		05/05/2021 01:00	<a href="#">WG1663717</a>
(S) 2-Fluorobiphenyl	95.0		48.0-148		05/05/2021 01:00	<a href="#">WG1663717</a>
(S) p-Terphenyl-d14	99.0		37.0-146		05/05/2021 01:00	<a href="#">WG1663717</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3650578-1 05/04/21 17:33

Analyte	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1346427-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1346427-01 05/04/21 17:33 • (DUP) R3650578-3 05/04/21 17:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	%	%		%		%
Total Solids	91.6	91.8	1	0.170		10

Laboratory Control Sample (LCS)

(LCS) R3650578-2 05/04/21 17:33

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3650576-1 05/04/21 17:04

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00300			

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1346440-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1346440-01 05/04/21 17:04 • (DUP) R3650576-3 05/04/21 17:04

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	75.7	75.5	1	0.253		10

Laboratory Control Sample (LCS)

(LCS) R3650576-2 05/04/21 17:04

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

Method Blank (MB)

(MB) R3650964-1 05/05/21 22:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	83.0			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650964-2 05/05/21 23:12 • (LCSD) R3650964-3 05/05/21 23:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1560	1540	104	103	50.0-150			1.29	20
(S) o-Terphenyl				134	121	52.0-156				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3651572-1 05/06/21 22:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	76.0			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3651572-2 05/06/21 23:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	48.8	97.6	50.0-150	
(S) o-Terphenyl			65.0	18.0-148	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3650620-3 05/05/21 00:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	119			31.0-160
(S) 2-Fluorobiphenyl	141			48.0-148
(S) p-Terphenyl-d14	163	J1		37.0-146

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650620-1 05/05/21 00:33 • (LCSD) R3650620-2 05/05/21 00:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCSD Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.90	1.99	95.0	99.5	67.0-150			4.63	20
Acenaphthene	2.00	1.90	1.97	95.0	98.5	65.0-138			3.62	20
Acenaphthylene	2.00	1.92	1.99	96.0	99.5	66.0-140			3.58	20
Benzo(a)anthracene	2.00	1.77	1.85	88.5	92.5	61.0-140			4.42	20
Benzo(a)pyrene	2.00	1.88	1.97	94.0	98.5	60.0-143			4.68	20
Benzo(b)fluoranthene	2.00	1.95	2.11	97.5	105	58.0-141			7.88	20
Benzo(g,h,i)perylene	2.00	2.18	1.96	109	98.0	52.0-153			10.6	20
Benzo(k)fluoranthene	2.00	2.14	2.24	107	112	58.0-148			4.57	20
Chrysene	2.00	2.02	2.00	101	100	64.0-144			0.995	20
Dibenz(a,h)anthracene	2.00	2.15	1.99	107	99.5	52.0-155			7.73	20
Fluoranthene	2.00	1.70	1.94	85.0	97.0	69.0-153			13.2	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3650620-1 05/05/21 00:33 • (LCSD) R3650620-2 05/05/21 00:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	2.05	2.00	103	100	64.0-136			2.47	20
Indeno(1,2,3-cd)pyrene	2.00	2.11	1.94	105	97.0	54.0-153			8.40	20
Naphthalene	2.00	1.81	1.87	90.5	93.5	61.0-137			3.26	20
Phenanthrene	2.00	1.87	1.91	93.5	95.5	62.0-137			2.12	20
Pyrene	2.00	2.03	2.05	102	103	60.0-142			0.980	20
1-Methylnaphthalene	2.00	1.93	1.98	96.5	99.0	66.0-142			2.56	20
2-Methylnaphthalene	2.00	1.82	1.90	91.0	95.0	62.0-136			4.30	20
2-Chloronaphthalene	2.00	1.86	1.96	93.0	98.0	64.0-140			5.24	20
(S) Nitrobenzene-d5				84.0	88.5	31.0-160				
(S) 2-Fluorobiphenyl				84.5	92.0	48.0-148				
(S) p-Terphenyl-d14				110	112	37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3650543-2 05/05/21 00:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	95.9			14.0-149
(S) 2-Fluorobiphenyl	91.0			34.0-125
(S) p-Terphenyl-d14	118			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3650543-1 05/05/21 00:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0724	90.5	50.0-126	
Acenaphthene	0.0800	0.0663	82.9	50.0-120	
Acenaphthylene	0.0800	0.0723	90.4	50.0-120	
Benzo(a)anthracene	0.0800	0.0724	90.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0634	79.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0630	78.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0656	82.0	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0703	87.9	49.0-125	
Chrysene	0.0800	0.0728	91.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0696	87.0	47.0-125	
Fluoranthene	0.0800	0.0717	89.6	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3650543-1 05/05/21 00:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0698	87.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0619	77.4	46.0-125	
Naphthalene	0.0800	0.0617	77.1	50.0-120	
Phenanthrene	0.0800	0.0692	86.5	47.0-120	
Pyrene	0.0800	0.0753	94.1	43.0-123	
1-Methylnaphthalene	0.0800	0.0645	80.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0624	78.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0663	82.9	50.0-120	
(S) Nitrobenzene-d5			106	14.0-149	
(S) 2-Fluorobiphenyl			94.7	34.0-125	
(S) p-Terphenyl-d14			118	23.0-120	

L1346533-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346533-16 05/05/21 03:14 • (MS) R3650543-3 05/05/21 03:29 • (MSD) R3650543-4 05/05/21 03:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0792	ND	0.0680	0.0694	85.9	86.8	1	10.0-145			2.04	30
Acenaphthene	0.0792	ND	0.0635	0.0643	80.2	80.4	1	14.0-127			1.25	27
Acenaphthylene	0.0792	ND	0.0704	0.0700	88.9	87.5	1	21.0-124			0.570	25
Benzo(a)anthracene	0.0792	ND	0.0677	0.0694	85.5	86.8	1	10.0-139			2.48	30
Benzo(a)pyrene	0.0792	ND	0.0596	0.0638	75.3	79.8	1	10.0-141			6.81	31
Benzo(b)fluoranthene	0.0792	ND	0.0580	0.0598	73.2	74.8	1	10.0-140			3.06	36
Benzo(g,h,i)perylene	0.0792	ND	0.0632	0.0629	79.8	78.6	1	10.0-140			0.476	33
Benzo(k)fluoranthene	0.0792	ND	0.0654	0.0643	82.6	80.4	1	10.0-137			1.70	31
Chrysene	0.0792	ND	0.0685	0.0684	86.5	85.5	1	10.0-145			0.146	30
Dibenz(a,h)anthracene	0.0792	ND	0.0664	0.0671	83.8	83.9	1	10.0-132			1.05	31
Fluoranthene	0.0792	ND	0.0659	0.0677	83.2	84.6	1	10.0-153			2.69	33
Fluorene	0.0792	ND	0.0652	0.0665	82.3	83.1	1	11.0-130			1.97	29
Indeno(1,2,3-cd)pyrene	0.0792	ND	0.0601	0.0598	75.9	74.8	1	10.0-137			0.500	32
Naphthalene	0.0792	ND	0.0622	0.0631	78.5	78.9	1	10.0-135			1.44	27
Phenanthrene	0.0792	ND	0.0656	0.0667	82.8	83.4	1	10.0-144			1.66	31
Pyrene	0.0792	ND	0.0708	0.0712	89.4	89.0	1	10.0-148			0.563	35
1-Methylnaphthalene	0.0792	ND	0.0651	0.0639	82.2	79.9	1	10.0-142			1.86	28
2-Methylnaphthalene	0.0792	ND	0.0638	0.0611	80.6	76.4	1	10.0-137			4.32	28
2-Chloronaphthalene	0.0792	ND	0.0651	0.0651	82.2	81.4	1	29.0-120			0.000	24
(S) Nitrobenzene-d5					92.4	95.6		14.0-149				
(S) 2-Fluorobiphenyl					84.6	85.1		34.0-125				
(S) p-Terphenyl-d14					104	102		23.0-120				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

# ACCREDITATIONS & LOCATIONS

DRAFT

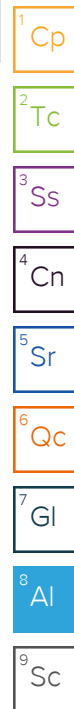
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:


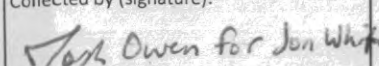
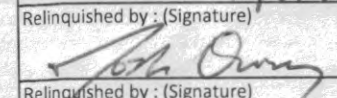
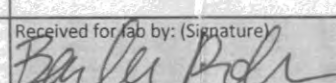
L1346427

DATE/TIME:

05/07/21 18:09

PAGE:

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Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>  200 N. Wasco Ct. Hood River, OR 97031				Billing Information: Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				Analysis / Container / Preservative Pres Chk				Chain of Custody Page <u>1</u> of <u>1</u>   12065 Lebanon Road Mt Juliet, TN 37122 Phone: 615-758-5858 Alt: 800-767-5859 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubs/pas-standard-terms.pdf">https://info.pacelabs.com/hubs/pas-standard-terms.pdf</a>				
Report to: <b>Jon White</b>				Email To: msba@msbaenvironmental.com;jwhite@msbae				As,Cd,Cr,Pb 6020 8ozClr-NoPres Cr6 7199 2ozClr-NoPres NWT PHDX NOSGT 8ozClr-NoPres PAHs 8270ESIM 8ozClr-NoPres VOCs 8260D 40mlAmb/MeOH10ml/Syr water PAHs 8270ESIM 40mlAmb-NoPres-WT Hold								
Project Description: <b>North Star Casteel</b>		City/State Collected: <b>Vancouver, WA</b>		Please Circle: <input checked="" type="radio"/> PT <input type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET												
Phone: <b>541-387-4422</b>		Client Project # <b>North Star</b>		Lab Project # <b>MSBAHROR-NSTARCASTEE</b>												
Collected by (print): <b>Jon White</b>		Site/Facility ID #		P.O. # <b>North Star</b>												
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #												
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed		No. of Cntrs												
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Cd,Cr,Pb 6020 8ozClr-NoPres	Cr6 7199 2ozClr-NoPres	NWT PHDX NOSGT 8ozClr-NoPres	PAHs 8270ESIM 8ozClr-NoPres	VOCs 8260D 40mlAmb/MeOH10ml/Syr	water PAHs 8270ESIM 40mlAmb-NoPres-WT	Hold	Remarks	Sample # (lab only)
<b>S1-0.5</b>		<b>Grab</b>	<b>SS</b>	<b>0.5</b>	<b>4/28/21</b>	<b>10:00</b>	<b>3</b>	<input checked="" type="checkbox"/>								<b>01</b>
<b>S11-1</b>			<b>SS</b>	<b>1</b>		<b>07:49</b>	<b>3</b>				<input checked="" type="checkbox"/>					<b>02</b>
<b>S12-0</b>			<b>SS</b>	<b>0</b>		<b>08:02</b>	<b>3</b>				<input checked="" type="checkbox"/>					<b>03</b>
<b>S13-0</b>			<b>SS</b>	<b>0</b>		<b>10:06</b>	<b>3</b>				<input checked="" type="checkbox"/>					<b>04</b>
<b>S14-1</b>			<b>SS</b>	<b>1</b>		<b>10:30</b>	<b>3</b>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<b>05</b>
<b>S15-0</b>			<b>SS</b>	<b>0</b>		<b>10:37</b>	<b>3</b>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<b>06</b>
<b>S16-1</b>			<b>GW SS</b>	<b>1</b>		<b>11:49</b>	<b>3</b>				<input checked="" type="checkbox"/>					<b>07</b>
<b>S17-0</b>			<b>GW SS</b>	<b>0</b>		<b>12:04</b>	<b>3</b>				<input checked="" type="checkbox"/>					<b>08</b>
<b>EB-2</b>			<b>GW OT</b>			<b>08:38</b>	<b>11</b>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<b>09</b>
<b>Trip Blanks</b>			<b>OT</b>										<input checked="" type="checkbox"/>			
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other <b>Equipment Blank / Trip Blank</b>		Remarks:				pH _____ Temp _____ Flow _____ Other _____				Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> <input type="checkbox"/> N						
Relinquished by: (Signature) 		Date: <b>4/29/21</b>		Time: <b>15:30</b>		Received by: (Signature) 				Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCL / MeOH TBR						
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)				Temp: <b>17.68 °C</b> Bottles Received: <b>35</b>				If preservation required by Login: Date/Time		
Relinquished by: (Signature)		Date:		Time:		Received for lab by: (Signature) 				Date: <b>4/30/21</b> Time: <b>0915</b>				Hold: Condition: <b>NCF / OK</b>		

# DRAFT

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6) Sample Date 4/28/21 (#L1350788)



**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1350788  
Samples Received: 04/30/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/28/21 10:06

Received date/time  
04/30/21 09:15

S13-O L1350788-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1664141	1	05/04/21 17:10	05/04/21 17:33	JAV	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1671162	20	05/15/21 12:36	05/16/21 23:00	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1671162	5	05/15/21 12:36	05/16/21 22:03	LD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1669300	1	05/12/21 17:56	05/13/21 04:25	AMG	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1350788

DATE/TIME:

05/17/21 15:41

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.5		1	05/04/2021 17:33	<a href="#">WG1664141</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Cadmium	2.54		1.12	5	05/16/2021 22:03	<a href="#">WG1671162</a>
Lead	365		8.94	20	05/16/2021 23:00	<a href="#">WG1671162</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Anthracene	0.104		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Acenaphthene	0.0178		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Acenaphthylene	0.0707		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Benzo(a)anthracene	0.412		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Benzo(a)pyrene	0.295		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Benzo(b)fluoranthene	0.450		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Benzo(g,h,i)perylene	0.236		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Benzo(k)fluoranthene	0.185		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Chrysene	0.455		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Dibenz(a,h)anthracene	0.0519		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Fluoranthene	0.899		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Fluorene	0.0450		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Indeno(1,2,3-cd)pyrene	0.285		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Naphthalene	0.0736		0.0223	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Phenanthrene	0.842		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
Pyrene	0.766		0.00670	1	05/13/2021 04:25	<a href="#">WG1669300</a>
1-Methylnaphthalene	0.0420		0.0223	1	05/13/2021 04:25	<a href="#">WG1669300</a>
2-Methylnaphthalene	0.0589		0.0223	1	05/13/2021 04:25	<a href="#">WG1669300</a>
2-Chloronaphthalene	ND		0.0223	1	05/13/2021 04:25	<a href="#">WG1669300</a>
(S) Nitrobenzene-d5	61.0		14.0-149		05/13/2021 04:25	<a href="#">WG1669300</a>
(S) 2-Fluorobiphenyl	64.0		34.0-125		05/13/2021 04:25	<a href="#">WG1669300</a>
(S) p-Terphenyl-d14	83.6		23.0-120		05/13/2021 04:25	<a href="#">WG1669300</a>

Method Blank (MB)

(MB) R3650578-1 05/04/21 17:33

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

L1346427-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1346427-01 05/04/21 17:33 • (DUP) R3650578-3 05/04/21 17:33

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.6	91.8	1	0.170		10

Laboratory Control Sample (LCS)

(LCS) R3650578-2 05/04/21 17:33

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3655097-1 05/16/21 21:33

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Cadmium	U		0.0855	1.00
Lead	U		0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3655097-2 05/16/21 21:37

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Cadmium	100	92.1	92.1	80.0-120	
Lead	100	89.0	89.0	80.0-120	

L1349821-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1349821-09 05/16/21 21:40 • (MS) R3655097-5 05/16/21 21:50 • (MSD) R3655097-6 05/16/21 21:53

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Cadmium	154	ND	155	148	101	96.4	5	75.0-125			4.28	20
Lead	154	8.98	160	161	98.6	99.1	5	75.0-125			0.516	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3653882-2 05/12/21 23:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	52.3			14.0-149
(S) 2-Fluorobiphenyl	70.0			34.0-125
(S) p-Terphenyl-d14	88.0			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3653882-1 05/12/21 23:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0586	73.3	50.0-126	
Acenaphthene	0.0800	0.0640	80.0	50.0-120	
Acenaphthylene	0.0800	0.0652	81.5	50.0-120	
Benzo(a)anthracene	0.0800	0.0576	72.0	45.0-120	
Benzo(a)pyrene	0.0800	0.0471	58.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0576	72.0	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0606	75.8	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0584	73.0	49.0-125	
Chrysene	0.0800	0.0641	80.1	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0607	75.9	47.0-125	
Fluoranthene	0.0800	0.0686	85.8	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3653882-1 05/12/21 23:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0693	86.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0588	73.5	46.0-125	
Naphthalene	0.0800	0.0616	77.0	50.0-120	
Phenanthrene	0.0800	0.0643	80.4	47.0-120	
Pyrene	0.0800	0.0600	75.0	43.0-123	
1-Methylnaphthalene	0.0800	0.0706	88.3	51.0-121	
2-Methylnaphthalene	0.0800	0.0640	80.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0593	74.1	50.0-120	
(S) Nitrobenzene-d5			61.2	14.0-149	
(S) 2-Fluorobiphenyl			76.3	34.0-125	
(S) p-Terphenyl-d14			87.8	23.0-120	

L1350936-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1350936-01 05/13/21 02:46 • (MS) R3653882-3 05/13/21 03:05 • (MSD) R3653882-4 05/13/21 03:25

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0796	0.129	0.0639	0.0635	0.000	0.000	1	10.0-145	J6	J6	0.628	30
Acenaphthene	0.0796	0.115	0.0644	0.0655	0.000	0.000	1	14.0-127	J6	J6	1.69	27
Acenaphthylene	0.0796	0.00913	0.0704	0.0721	77.0	79.5	1	21.0-124			2.39	25
Benzo(a)anthracene	0.0796	0.289	0.0986	0.0908	0.000	0.000	1	10.0-139	J6	J6	8.24	30
Benzo(a)pyrene	0.0796	0.258	0.101	0.0904	0.000	0.000	1	10.0-141	J6	J6	11.1	31
Benzo(b)fluoranthene	0.0796	0.314	0.124	0.103	0.000	0.000	1	10.0-140	J6	J6	18.5	36
Benzo(g,h,i)perylene	0.0796	0.188	0.108	0.0955	0.000	0.000	1	10.0-140	J6	J6	12.3	33
Benzo(k)fluoranthene	0.0796	0.127	0.0800	0.0738	0.000	0.000	1	10.0-137	J6	J6	8.06	31
Chrysene	0.0796	0.328	0.108	0.0982	0.000	0.000	1	10.0-145	V	V	9.51	30
Dibenz(a,h)anthracene	0.0796	0.0390	0.0574	0.0595	23.1	25.9	1	10.0-132			3.59	31
Fluoranthene	0.0796	0.733	0.135	0.123	0.000	0.000	1	10.0-153	V	V	9.30	33
Fluorene	0.0796	0.104	0.0700	0.0768	0.000	0.000	1	11.0-130	J6	J6	9.26	29
Indeno(1,2,3-cd)pyrene	0.0796	0.195	0.100	0.0876	0.000	0.000	1	10.0-137	J6	J6	13.2	32
Naphthalene	0.0796	0.0765	0.0733	0.0910	0.000	18.3	1	10.0-135	J6		21.5	27
Phenanthrene	0.0796	0.822	0.0950	0.0886	0.000	0.000	1	10.0-144	V	V	6.97	31
Pyrene	0.0796	0.624	0.118	0.108	0.000	0.000	1	10.0-148	V	V	8.85	35
1-Methylnaphthalene	0.0796	0.0731	0.0808	0.0921	9.67	24.0	1	10.0-142	J6		13.1	28
2-Methylnaphthalene	0.0796	0.0704	0.0775	0.0941	8.92	29.9	1	10.0-137	J6		19.3	28
2-Chloronaphthalene	0.0796	ND	0.0585	0.0604	73.5	76.3	1	29.0-120			3.20	24
(S) Nitrobenzene-d5					56.1	59.9		14.0-149				
(S) 2-Fluorobiphenyl					74.9	78.1		34.0-125				
(S) p-Terphenyl-d14					84.3	88.9		23.0-120				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

DRAFT

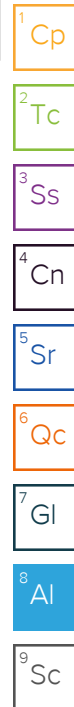
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

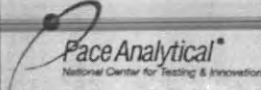
L1350788

DATE/TIME:

05/17/21 15:41

PAGE:

11 of 13

Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>				Billing Information: <b>Accounts Payable</b> 200 N. Wasco Ct. Hood River, OR 97031				Analysis / Container / Preservative				Chain of Custody Page <u>1</u> of <u>1</u>			
Report to: <b>Jon White</b>				Email To: msba@msbaenvironmental.com;jwhite@msbae								 12065 Lebanon Road Mt Juliet, TN 37122 Phone: 615-758-5858 Alt: 800-767-5859 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hub/t/pas-standard-terms.pdf">https://info.pacelabs.com/hub/t/pas-standard-terms.pdf</a>			
Project Description: <b>North Star Casteel</b>				City/State Collected: <b>Vancouver, WA</b>		Please Circle: <input checked="" type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET									
Phone: <b>541-387-4422</b>				Client Project # <b>North Star</b>				Lab Project # <b>MSBAHROR-NSTARCASTEE</b>							
Collected by (print): <b>Jon White</b>				Site/Facility ID #				P.O. # <b>North Star</b>							
Collected by (signature): <i>Josh Owen for Jon White</i>				Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Quote #							
Packed on Ice <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> Y				Date Results Needed				No. of Cntrs							
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time									
S1-0.5		Grab	SS	0.5	4/28/21	10:00	3								
S11-1			SS	1		07:49	3								
S12-0			SS	0		08:02	3								
S13-0			SS	0		10:06	3								
S14-1			SS	1		10:30	3								
S15-0			SS	0		10:37	3								
S16-1			GW SS	1		11:49	3								
S17-0			GW SS	0		12:04	3								
EB-2			GW OT			08:38	11								
Trip Blank			OT												
* Matrix: SS - Soil    AIR - Air    F - Filter GW - Groundwater    B - Bioassay WW - WasteWater DW - Drinking Water OT - Other Equipment Trip Blank				Remarks:				pH _____ Temp _____ Flow _____ Other _____				Sample Receipt Checklist QOC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N QOC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N			
Relinquished by: (Signature) <i>Josh Owen</i>				Date: 4/29/21		Time: 15:30		Received by: (Signature)				Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCL / MeOH TBR			
Relinquished by: (Signature)				Date:		Time:		Received by: (Signature)				Temp: 17.5 °C    Bottles Received: 35			
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature) <i>Barbara Pahr</i>				Date: 4/30/21		Time: 0915	
												Hold:		Condition: NCF 1 OK	

**L1346427 MSBAHROR re-log short hold**

R1/R2

Please re-log L1346427-04 (S13-o) for CDG,PBG,SV8270PAHSIMD,TS. Transfer TS. RX due 05/18.

SV8270PAHSIMD out of hold tomorrow. 1.5x multiplier for short hold.

Time estimate: oh      Time spent: oh

**Members**

Brian Ford

**L1346427 MSBAHROR re-log short hold**

Please re-log L1346427-04 (S13-o) for CDG,PBG,SV8270PAHSIMD,TS.

SV8270PAHSIMD out of hold tomorrow. 1.5x multiplier for short hold.

Time estimate: oh      Time spent: oh

**Members**

Brian Ford

**L1346427 MSBAHROR re-log short hold**

Please re-log L1346427-04 (S13-o) for CDG,PBG,SV8270PAHSIMD,TS.

SV8270PAHSIMD out of hold tomorrow. 1.5x multiplier for short hold.

Time estimate: oh      Time spent: oh

**Members**

Brian Ford

# DRAFT

---

7) Sample Date 4/29/21 (#L1350377)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1350377  
Samples Received: 05/01/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/29/21 09:27

Received date/time  
05/01/21 10:00

## S18-0 L1350377-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668084	1	05/11/21 10:31	05/11/21 10:40	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1668294	5	05/11/21 11:21	05/12/21 10:06	JPD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPH-HCID	WG1668844	10	05/12/21 07:36	05/12/21 20:24	TJD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 10:03

Received date/time  
05/01/21 10:00

## S19-0 L1350377-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668084	1	05/11/21 10:31	05/11/21 10:40	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1668294	20	05/11/21 11:21	05/12/21 10:39	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1668294	5	05/11/21 11:21	05/12/21 10:18	JPD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPH-HCID	WG1668844	10	05/12/21 07:36	05/12/21 22:11	TJD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 12:13

Received date/time  
05/01/21 10:00

## S20-9 L1350377-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668363	1	05/11/21 20:26	05/12/21 10:30	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 12:13

Received date/time  
05/01/21 10:00

## S20-9 DUP L1350377-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668363	1	05/11/21 20:26	05/12/21 10:43	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 12:25

Received date/time  
05/01/21 10:00

## S21-9 L1350377-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668363	1	05/11/21 20:26	05/12/21 11:23	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 12:33

Received date/time  
05/01/21 10:00

## S22-9 L1350377-06 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668363	1	05/11/21 20:26	05/12/21 11:36	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 15:21

Received date/time  
05/01/21 10:00

## S23-1 L1350377-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1668294	5	05/11/21 11:21	05/12/21 10:21	JPD	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/29/21 15:35

Received date/time  
05/01/21 10:00

## S24-1 L1350377-08 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1668294	5	05/11/21 11:21	05/12/21 10:25	JPD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 16:22

Received date/time  
05/01/21 10:00

## S25-1.5 L1350377-09 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668363	25	05/11/21 20:26	05/12/21 12:15	CAG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668363	5	05/11/21 20:26	05/12/21 11:49	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 17:42

Received date/time  
05/01/21 10:00

## S26-2.5 L1350377-10 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1668261	1	05/11/21 12:38	05/12/21 17:59	MSP	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 17:42

Received date/time  
05/01/21 10:00

## S26-2.5 DUP L1350377-11 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1668261	1	05/11/21 12:38	05/12/21 18:04	MSP	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 17:49

Received date/time  
05/01/21 10:00

## S27-2.5 L1350377-12 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668091	1	05/11/21 10:18	05/11/21 10:25	KDW	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1668261	1	05/11/21 12:38	05/12/21 18:09	MSP	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/29/21 18:00

Received date/time  
05/01/21 10:00

## S28-8 L1350377-13 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668220	1	05/11/21 10:08	05/11/21 10:16	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPH-HCID	WG1668844	1	05/12/21 07:36	05/12/21 17:43	TJD	Mt. Juliet, TN

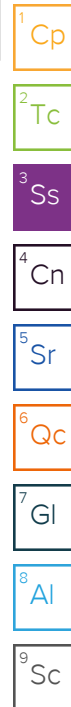
Collected by  
Jon White

Collected date/time  
04/29/21 11:42

Received date/time  
05/01/21 10:00

## EB-3 L1350377-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1668265	1	05/11/21 12:49	05/11/21 18:52	LD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668988	1	05/12/21 14:14	05/13/21 10:25	DMG	Mt. Juliet, TN





# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/29/21 00:00

Received date/time  
05/01/21 10:00

TRIP BLANK L1350377-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1669061	1	05/12/21 15:53	05/12/21 15:53	ADM	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S18-0

Collected date/time: 04/29/21 09:27

## SAMPLE RESULTS - 01

L1350377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.9		1	05/11/2021 10:40	<a href="#">WG1668084</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	5.73		1.19	5	05/12/2021 10:06	<a href="#">WG1668294</a>
Cadmium	ND		1.19	5	05/12/2021 10:06	<a href="#">WG1668294</a>
Lead	82.7		2.38	5	05/12/2021 10:06	<a href="#">WG1668294</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPH-HCID

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Gasoline (C7-C12)	ND		47.7	10	05/12/2021 20:24	<a href="#">WG1668844</a>
Mineral Spirits	ND		47.7	10	05/12/2021 20:24	<a href="#">WG1668844</a>
Kerosene	ND		47.7	10	05/12/2021 20:24	<a href="#">WG1668844</a>
Diesel (C12-C24)	70.6		47.7	10	05/12/2021 20:24	<a href="#">WG1668844</a>
#6 Fuel Oil	ND		47.7	10	05/12/2021 20:24	<a href="#">WG1668844</a>
Hydraulic Fluid	ND		47.7	10	05/12/2021 20:24	<a href="#">WG1668844</a>
Motor Oil (C24-C30)	423		119	10	05/12/2021 20:24	<a href="#">WG1668844</a>
(S) o-Terphenyl	60.9		18.0-148		05/12/2021 20:24	<a href="#">WG1668844</a>

## Sample Narrative:

L1350377-01 WG1668844: Dilution due to matrix impact during extract concentration procedure

S19-0

Collected date/time: 04/29/21 10:03

SAMPLE RESULTS - 02

L1350377

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.1		1	05/11/2021 10:40	<a href="#">WG1668084</a>

1 Cp

2 Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	34.7		1.05	5	05/12/2021 10:18	<a href="#">WG1668294</a>
Cadmium	4.58		1.05	5	05/12/2021 10:18	<a href="#">WG1668294</a>
Lead	366		8.41	20	05/12/2021 10:39	<a href="#">WG1668294</a>

3 Ss

4 Cn

5 Sr

## Semi-Volatile Organic Compounds (GC) by Method NWTPH-HCID

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Gasoline (C7-C12)	ND		42.1	10	05/12/2021 22:11	<a href="#">WG1668844</a>
Mineral Spirits	ND		42.1	10	05/12/2021 22:11	<a href="#">WG1668844</a>
Kerosene	ND		42.1	10	05/12/2021 22:11	<a href="#">WG1668844</a>
Diesel (C12-C24)	ND		42.1	10	05/12/2021 22:11	<a href="#">WG1668844</a>
#6 Fuel Oil	ND		42.1	10	05/12/2021 22:11	<a href="#">WG1668844</a>
Hydraulic Fluid	ND		42.1	10	05/12/2021 22:11	<a href="#">WG1668844</a>
Motor Oil (C24-C30)	ND		105	10	05/12/2021 22:11	<a href="#">WG1668844</a>
(S) o-Terphenyl	71.7		18.0-148		05/12/2021 22:11	<a href="#">WG1668844</a>

6 Qc

7 Gl

8 Al

9 Sc

## Sample Narrative:

L1350377-02 WG1668844: Dilution due to matrix impact during extract concentration procedure

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1350377

DATE/TIME:

05/14/21 10:58

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S20-9

Collected date/time: 04/29/21 12:13

## SAMPLE RESULTS - 03

L1350377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	81.9		1	05/11/2021 10:25	<a href="#">WG1668091</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.89	1	05/12/2021 10:30	<a href="#">WG1668363</a>
Residual Range Organics (RRO)	ND		12.2	1	05/12/2021 10:30	<a href="#">WG1668363</a>
(S) o-Terphenyl	36.7		18.0-148		05/12/2021 10:30	<a href="#">WG1668363</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.3		1	05/11/2021 10:25	<a href="#">WG1668091</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.80	1	05/12/2021 10:43	<a href="#">WG1668363</a>
Residual Range Organics (RRO)	ND		12.0	1	05/12/2021 10:43	<a href="#">WG1668363</a>
(S) o-Terphenyl	40.2		18.0-148		05/12/2021 10:43	<a href="#">WG1668363</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S21-9

Collected date/time: 04/29/21 12:25

## SAMPLE RESULTS - 05

L1350377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.4		1	05/11/2021 10:25	<a href="#">WG1668091</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.79	1	05/12/2021 11:23	<a href="#">WG1668363</a>
Residual Range Organics (RRO)	ND		12.0	1	05/12/2021 11:23	<a href="#">WG1668363</a>
(S) o-Terphenyl	45.0		18.0-148		05/12/2021 11:23	<a href="#">WG1668363</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S22-9

Collected date/time: 04/29/21 12:33

SAMPLE RESULTS - 06

L1350377

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	81.4		1	05/11/2021 10:25	<a href="#">WG1668091</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.91	1	05/12/2021 11:36	<a href="#">WG1668363</a>
Residual Range Organics (RRO)	ND		12.3	1	05/12/2021 11:36	<a href="#">WG1668363</a>
(S) o-Terphenyl	33.9		18.0-148		05/12/2021 11:36	<a href="#">WG1668363</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



S23-1

Collected date/time: 04/29/21 15:21

## SAMPLE RESULTS - 07

L1350377

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.6		1	05/11/2021 10:25	<a href="#">WG1668091</a>

<sup>1</sup> Cp<sup>2</sup> Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.24		1.12	5	05/12/2021 10:21	<a href="#">WG1668294</a>
Chromium	31.5		5.58	5	05/12/2021 10:21	<a href="#">WG1668294</a>

<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S24-1

Collected date/time: 04/29/21 15:35

## SAMPLE RESULTS - 08

L1350377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.1		1	05/11/2021 10:25	<a href="#">WG1668091</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.75		1.10	5	05/12/2021 10:25	<a href="#">WG1668294</a>
Chromium	22.6		5.49	5	05/12/2021 10:25	<a href="#">WG1668294</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.7		1	05/11/2021 10:25	<a href="#">WG1668091</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	667		21.3	5	05/12/2021 11:49	<a href="#">WG1668363</a>
Residual Range Organics (RRO)	3350		267	25	05/12/2021 12:15	<a href="#">WG1668363</a>
(S) o-Terphenyl	52.2		18.0-148		05/12/2021 11:49	<a href="#">WG1668363</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		05/12/2021 12:15	<a href="#">WG1668363</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S26-2.5

Collected date/time: 04/29/21 17:42

## SAMPLE RESULTS - 10

L1350377

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	73.5		1	05/11/2021 10:25	<a href="#">WG1668091</a>

1 Cp

2 Tc

## Wet Chemistry by Method 7199

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.36	1	05/12/2021 17:59	<a href="#">WG1668261</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.3		1	05/11/2021 10:25	<a href="#">WG1668091</a>

1 Cp

2 Tc

## Wet Chemistry by Method 7199

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.28	1	05/12/2021 18:04	<a href="#">WG1668261</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.3		1	05/11/2021 10:25	<a href="#">WG1668091</a>

1 Cp

2 Tc

## Wet Chemistry by Method 7199

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.17	1	05/12/2021 18:09	<a href="#">WG1668261</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S28-8

Collected date/time: 04/29/21 18:00

SAMPLE RESULTS - 13

L1350377

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.1		1	05/11/2021 10:16	<a href="#">WG1668220</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPH-HCID

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Gasoline (C7-C12)	ND		4.87	1	05/12/2021 17:43	<a href="#">WG1668844</a>
Mineral Spirits	ND		4.87	1	05/12/2021 17:43	<a href="#">WG1668844</a>
Kerosene	ND		4.87	1	05/12/2021 17:43	<a href="#">WG1668844</a>
Diesel (C12-C24)	ND		4.87	1	05/12/2021 17:43	<a href="#">WG1668844</a>
#6 Fuel Oil	ND		4.87	1	05/12/2021 17:43	<a href="#">WG1668844</a>
Hydraulic Fluid	ND		4.87	1	05/12/2021 17:43	<a href="#">WG1668844</a>
Motor Oil (C24-C30)	ND		12.2	1	05/12/2021 17:43	<a href="#">WG1668844</a>
(S) o-Terphenyl	33.4		18.0-148		05/12/2021 17:43	<a href="#">WG1668844</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	05/11/2021 18:52	<a href="#">WG1668265</a>
Cadmium	ND		1.00	1	05/11/2021 18:52	<a href="#">WG1668265</a>
Chromium	ND		2.00	1	05/11/2021 18:52	<a href="#">WG1668265</a>
Lead	ND		2.00	1	05/11/2021 18:52	<a href="#">WG1668265</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		100	1	05/13/2021 10:25	<a href="#">WG1668988</a>
Residual Range Organics (RRO)	ND		250	1	05/13/2021 10:25	<a href="#">WG1668988</a>
(S) o-Terphenyl	95.8		31.0-160		05/13/2021 10:25	<a href="#">WG1668988</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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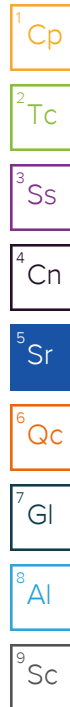
Collected date/time: 04/29/21 00:00

## SAMPLE RESULTS - 15

L1350377

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		10.0	1	05/12/2021 15:53	WG1669061
Acrylonitrile	ND		0.500	1	05/12/2021 15:53	WG1669061
Acrolein	ND		50.0	1	05/12/2021 15:53	WG1669061
Benzene	ND		0.0400	1	05/12/2021 15:53	WG1669061
Bromobenzene	ND		0.500	1	05/12/2021 15:53	WG1669061
Bromodichloromethane	ND		0.100	1	05/12/2021 15:53	WG1669061
Bromoform	ND		1.00	1	05/12/2021 15:53	WG1669061
Bromomethane	ND		0.500	1	05/12/2021 15:53	WG1669061
n-Butylbenzene	ND		0.500	1	05/12/2021 15:53	WG1669061
sec-Butylbenzene	ND		0.500	1	05/12/2021 15:53	WG1669061
tert-Butylbenzene	ND		0.200	1	05/12/2021 15:53	WG1669061
Carbon disulfide	ND		0.500	1	05/12/2021 15:53	WG1669061
Carbon tetrachloride	ND		0.200	1	05/12/2021 15:53	WG1669061
Chlorobenzene	ND		0.100	1	05/12/2021 15:53	WG1669061
Chlorodibromomethane	ND		0.100	1	05/12/2021 15:53	WG1669061
Chloroethane	ND	C3	0.200	1	05/12/2021 15:53	WG1669061
Chloroform	ND		0.100	1	05/12/2021 15:53	WG1669061
Chloromethane	ND		0.500	1	05/12/2021 15:53	WG1669061
2-Chlorotoluene	ND		0.100	1	05/12/2021 15:53	WG1669061
4-Chlorotoluene	ND		0.200	1	05/12/2021 15:53	WG1669061
1,2-Dibromo-3-Chloropropane	ND		1.00	1	05/12/2021 15:53	WG1669061
1,2-Dibromoethane	ND		0.100	1	05/12/2021 15:53	WG1669061
Dibromomethane	ND		0.200	1	05/12/2021 15:53	WG1669061
1,2-Dichlorobenzene	ND		0.200	1	05/12/2021 15:53	WG1669061
1,3-Dichlorobenzene	ND		0.200	1	05/12/2021 15:53	WG1669061
1,4-Dichlorobenzene	ND		0.200	1	05/12/2021 15:53	WG1669061
Dichlorodifluoromethane	ND		0.100	1	05/12/2021 15:53	WG1669061
1,1-Dichloroethane	ND		0.100	1	05/12/2021 15:53	WG1669061
1,2-Dichloroethane	ND		0.100	1	05/12/2021 15:53	WG1669061
1,1-Dichloroethene	ND		0.100	1	05/12/2021 15:53	WG1669061
cis-1,2-Dichloroethene	ND		0.100	1	05/12/2021 15:53	WG1669061
trans-1,2-Dichloroethene	ND		0.200	1	05/12/2021 15:53	WG1669061
1,2-Dichloropropane	ND		0.200	1	05/12/2021 15:53	WG1669061
1,1-Dichloropropene	ND		0.100	1	05/12/2021 15:53	WG1669061
1,3-Dichloropropane	ND		0.200	1	05/12/2021 15:53	WG1669061
cis-1,3-Dichloropropene	ND		0.100	1	05/12/2021 15:53	WG1669061
trans-1,3-Dichloropropene	ND		0.200	1	05/12/2021 15:53	WG1669061
2,2-Dichloropropane	ND		0.100	1	05/12/2021 15:53	WG1669061
Di-isopropyl ether	ND		0.0400	1	05/12/2021 15:53	WG1669061
Ethylbenzene	ND		0.100	1	05/12/2021 15:53	WG1669061
Hexachloro-1,3-butadiene	ND		1.00	1	05/12/2021 15:53	WG1669061
2-Hexanone	ND		1.00	1	05/12/2021 15:53	WG1669061
Isopropylbenzene	ND		0.100	1	05/12/2021 15:53	WG1669061
p-Isopropyltoluene	ND		0.200	1	05/12/2021 15:53	WG1669061
2-Butanone (MEK)	ND		1.00	1	05/12/2021 15:53	WG1669061
Methylene Chloride	ND		1.00	1	05/12/2021 15:53	WG1669061
4-Methyl-2-pentanone (MIBK)	ND		1.00	1	05/12/2021 15:53	WG1669061
Methyl tert-butyl ether	ND		0.0400	1	05/12/2021 15:53	WG1669061
Naphthalene	ND		0.500	1	05/12/2021 15:53	WG1669061
n-Propylbenzene	ND		0.200	1	05/12/2021 15:53	WG1669061
Styrene	ND		0.500	1	05/12/2021 15:53	WG1669061
1,1,1,2-Tetrachloroethane	ND		0.100	1	05/12/2021 15:53	WG1669061
1,1,2,2-Tetrachloroethane	ND		0.100	1	05/12/2021 15:53	WG1669061
1,1,2-Trichlorotrifluoroethane	ND		0.100	1	05/12/2021 15:53	WG1669061
Tetrachloroethene	ND		0.100	1	05/12/2021 15:53	WG1669061
Toluene	ND		0.200	1	05/12/2021 15:53	WG1669061



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1350377

DATE/TIME:

05/14/21 10:58

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Collected date/time: 04/29/21 00:00

## SAMPLE RESULTS - 15

L1350377

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichlorobenzene	ND		0.500	1	05/12/2021 15:53	<a href="#">WG1669061</a>
1,2,4-Trichlorobenzene	ND		0.500	1	05/12/2021 15:53	<a href="#">WG1669061</a>
1,1,1-Trichloroethane	ND		0.100	1	05/12/2021 15:53	<a href="#">WG1669061</a>
1,1,2-Trichloroethane	ND		0.100	1	05/12/2021 15:53	<a href="#">WG1669061</a>
Trichloroethene	ND		0.0400	1	05/12/2021 15:53	<a href="#">WG1669061</a>
Trichlorofluoromethane	ND		0.100	1	05/12/2021 15:53	<a href="#">WG1669061</a>
1,2,3-Trichloropropane	ND		0.500	1	05/12/2021 15:53	<a href="#">WG1669061</a>
1,2,4-Trimethylbenzene	ND		0.200	1	05/12/2021 15:53	<a href="#">WG1669061</a>
1,2,3-Trimethylbenzene	ND		0.200	1	05/12/2021 15:53	<a href="#">WG1669061</a>
1,3,5-Trimethylbenzene	ND		0.200	1	05/12/2021 15:53	<a href="#">WG1669061</a>
Vinyl chloride	ND		0.100	1	05/12/2021 15:53	<a href="#">WG1669061</a>
Xylenes, Total	ND		0.260	1	05/12/2021 15:53	<a href="#">WG1669061</a>
(S) Toluene-d8	103		75.0-131		05/12/2021 15:53	<a href="#">WG1669061</a>
(S) 4-Bromofluorobenzene	103		67.0-138		05/12/2021 15:53	<a href="#">WG1669061</a>
(S) 1,2-Dichloroethane-d4	107		70.0-130		05/12/2021 15:53	<a href="#">WG1669061</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

Method Blank (MB)

(MB) R3653262-1 05/11/21 10:40

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

L1350276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1350276-01 05/11/21 10:40 • (DUP) R3653262-3 05/11/21 10:40

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	86.3	85.5	1	0.872		10

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R3653262-2 05/11/21 10:40

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3653259-1 05/11/21 10:25

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1350377-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1350377-03 05/11/21 10:25 • (DUP) R3653259-3 05/11/21 10:25

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	81.9	82.1	1	0.279		10

Laboratory Control Sample (LCS)

(LCS) R3653259-2 05/11/21 10:25

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3653053-1 05/11/21 10:16

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1347389-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1347389-01 05/11/21 10:16 • (DUP) R3653053-3 05/11/21 10:16

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	81.3	80.6	1	0.842		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3653053-2 05/11/21 10:16

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3653933-1 05/12/21 15:49

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Hexavalent Chromium	U		0.255	1.00

L1349801-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1349801-03 05/12/21 16:36 • (DUP) R3653933-3 05/12/21 16:51

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	200	P1	20

L1350161-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1350161-03 05/12/21 17:38 • (DUP) R3653933-8 05/12/21 17:54

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R3653933-2 05/12/21 15:54

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.8	108	80.0-120	

L1350106-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1350106-05 05/12/21 17:07 • (MS) R3653933-4 05/12/21 17:12 • (MSD) R3653933-5 05/12/21 17:17

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	ND	16.5	19.5	82.3	97.7	1	75.0-125			17.1	20

L1350106-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1350106-05 05/12/21 17:07 • (MS) R3653933-6 05/12/21 17:22

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	716	ND	583	81.4	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3653133-1 05/11/21 17:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic	U		0.180	2.00
Cadmium	U		0.150	1.00
Chromium	U		1.24	2.00
Lead	U		0.849	2.00

Laboratory Control Sample (LCS)

(LCS) R3653133-2 05/11/21 17:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	50.0	48.1	96.3	80.0-120	
Cadmium	50.0	53.5	107	80.0-120	
Chromium	50.0	51.4	103	80.0-120	
Lead	50.0	51.0	102	80.0-120	

L1345902-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1345902-01 05/11/21 17:27 • (MS) R3653133-4 05/11/21 17:34 • (MSD) R3653133-5 05/11/21 17:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	50.0	ND	50.0	49.4	99.5	98.3	1	75.0-125			1.21	20
Cadmium	50.0	ND	54.2	54.9	108	110	1	75.0-125			1.20	20
Chromium	50.0	ND	52.1	51.9	101	101	1	75.0-125			0.320	20
Lead	50.0	ND	50.7	51.5	101	103	1	75.0-125			1.53	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3653390-1 05/12/21 08:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Lead	U		0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3653390-2 05/12/21 08:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	98.7	98.7	80.0-120	
Cadmium	100	98.0	98.0	80.0-120	
Chromium	100	99.8	99.8	80.0-120	
Lead	100	92.2	92.2	80.0-120	

L1348896-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1348896-11 05/12/21 09:01 • (MS) R3653390-5 05/12/21 09:11 • (MSD) R3653390-6 05/12/21 09:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	8.84	104	109	94.7	100	5	75.0-125			5.30	20
Cadmium	100	ND	113	118	112	118	5	75.0-125			4.76	20
Chromium	100	20.9	125	128	104	107	5	75.0-125			2.30	20
Lead	100	6.74	112	114	106	107	5	75.0-125			1.63	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3653587-3 05/12/21 15:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	2.08		0.548	10.0
Acrolein	U		0.758	50.0
Acrylonitrile	U		0.0760	0.500
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon disulfide	U		0.162	0.500
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,2-Dichlorobenzene	U		0.0580	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3653587-3 05/12/21 15:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.508	1.00
2-Hexanone	U		0.400	1.00
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	U		0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
(S) Toluene-d8	105			75.0-131
(S) 4-Bromofluorobenzene	103			67.0-138
(S) 1,2-Dichloroethane-d4	109			70.0-130

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3653587-1 05/12/21 11:31 • (LCSD) R3653587-2 05/12/21 11:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	25.5	25.1	102	100	10.0-160			1.58	31
Acrolein	25.0	31.4	31.7	126	127	10.0-160			0.951	31

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3653587-1 05/12/21 11:31 • (LCSD) R3653587-2 05/12/21 11:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acrylonitrile	25.0	24.8	25.0	99.2	100	45.0-153			0.803	22
Benzene	5.00	4.90	4.77	98.0	95.4	70.0-123			2.69	20
Bromobenzene	5.00	5.00	4.99	100	99.8	73.0-121			0.200	20
Bromodichloromethane	5.00	4.55	4.55	91.0	91.0	73.0-121			0.000	20
Bromoform	5.00	5.34	5.20	107	104	64.0-132			2.66	20
Bromomethane	5.00	4.39	4.36	87.8	87.2	56.0-147			0.686	20
n-Butylbenzene	5.00	4.22	4.37	84.4	87.4	68.0-135			3.49	20
sec-Butylbenzene	5.00	4.39	4.45	87.8	89.0	74.0-130			1.36	20
tert-Butylbenzene	5.00	4.39	4.51	87.8	90.2	75.0-127			2.70	20
Carbon disulfide	5.00	4.54	4.56	90.8	91.2	56.0-133			0.440	20
Carbon tetrachloride	5.00	5.26	5.08	105	102	66.0-128			3.48	20
Chlorobenzene	5.00	4.79	4.85	95.8	97.0	76.0-128			1.24	20
Chlorodibromomethane	5.00	5.34	5.12	107	102	74.0-127			4.21	20
Chloroethane	5.00	3.68	3.90	73.6	78.0	61.0-134			5.80	20
Chloroform	5.00	4.66	4.53	93.2	90.6	72.0-123			2.83	20
Chloromethane	5.00	4.43	4.78	88.6	95.6	51.0-138			7.60	20
2-Chlorotoluene	5.00	4.78	4.74	95.6	94.8	75.0-124			0.840	20
4-Chlorotoluene	5.00	4.29	4.47	85.8	89.4	75.0-124			4.11	20
1,2-Dibromo-3-Chloropropane	5.00	4.45	4.54	89.0	90.8	59.0-130			2.00	20
1,2-Dibromoethane	5.00	5.01	5.00	100	100	74.0-128			0.200	20
Dibromomethane	5.00	5.16	5.16	103	103	75.0-122			0.000	20
1,2-Dichlorobenzene	5.00	4.82	4.93	96.4	98.6	76.0-124			2.26	20
1,3-Dichlorobenzene	5.00	4.73	4.82	94.6	96.4	76.0-125			1.88	20
1,4-Dichlorobenzene	5.00	4.74	4.67	94.8	93.4	77.0-121			1.49	20
Dichlorodifluoromethane	5.00	5.10	5.20	102	104	43.0-156			1.94	20
1,1-Dichloroethane	5.00	4.78	4.63	95.6	92.6	70.0-127			3.19	20
1,2-Dichloroethane	5.00	4.62	4.61	92.4	92.2	65.0-131			0.217	20
1,1-Dichloroethene	5.00	4.74	4.72	94.8	94.4	65.0-131			0.423	20
cis-1,2-Dichloroethene	5.00	4.96	4.76	99.2	95.2	73.0-125			4.12	20
trans-1,2-Dichloroethene	5.00	4.79	4.74	95.8	94.8	71.0-125			1.05	20
1,2-Dichloropropane	5.00	4.92	5.01	98.4	100	74.0-125			1.81	20
1,1-Dichloropropene	5.00	4.61	4.52	92.2	90.4	73.0-125			1.97	20
1,3-Dichloropropane	5.00	4.91	4.90	98.2	98.0	80.0-125			0.204	20
cis-1,3-Dichloropropene	5.00	4.80	4.67	96.0	93.4	76.0-127			2.75	20
trans-1,3-Dichloropropene	5.00	4.89	4.80	97.8	96.0	73.0-127			1.86	20
2,2-Dichloropropane	5.00	5.00	5.16	100	103	59.0-135			3.15	20
Di-isopropyl ether	5.00	5.10	4.82	102	96.4	60.0-136			5.65	20
Ethylbenzene	5.00	5.03	5.02	101	100	74.0-126			0.199	20
Hexachloro-1,3-butadiene	5.00	4.90	5.36	98.0	107	57.0-150			8.97	20
2-Hexanone	25.0	24.8	24.7	99.2	98.8	54.0-147			0.404	20

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3653587-1 05/12/21 11:31 • (LCSD) R3653587-2 05/12/21 11:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Isopropylbenzene	5.00	4.80	4.73	96.0	94.6	72.0-127			1.47	20
p-Isopropyltoluene	5.00	4.43	4.49	88.6	89.8	72.0-133			1.35	20
2-Butanone (MEK)	25.0	24.6	24.0	98.4	96.0	30.0-160			2.47	24
Methylene Chloride	5.00	4.72	4.78	94.4	95.6	68.0-123			1.26	20
4-Methyl-2-pentanone (MIBK)	25.0	25.5	25.8	102	103	56.0-143			1.17	20
Methyl tert-butyl ether	5.00	5.35	4.91	107	98.2	66.0-132			8.58	20
Naphthalene	5.00	4.22	4.33	84.4	86.6	59.0-130			2.57	20
n-Propylbenzene	5.00	4.22	4.24	84.4	84.8	74.0-126			0.473	20
Styrene	5.00	4.75	4.78	95.0	95.6	72.0-127			0.630	20
1,1,1,2-Tetrachloroethane	5.00	5.29	5.29	106	106	74.0-129			0.000	20
1,1,2,2-Tetrachloroethane	5.00	4.43	4.48	88.6	89.6	68.0-128			1.12	20
Tetrachloroethene	5.00	5.18	5.14	104	103	70.0-136			0.775	20
Toluene	5.00	4.70	4.83	94.0	96.6	75.0-121			2.73	20
1,1,2-Trichlorotrifluoroethane	5.00	5.21	5.50	104	110	61.0-139			5.42	20
1,2,3-Trichlorobenzene	5.00	4.21	4.50	84.2	90.0	59.0-139			6.66	20
1,2,4-Trichlorobenzene	5.00	4.85	5.02	97.0	100	62.0-137			3.44	20
1,1,1-Trichloroethane	5.00	4.81	4.67	96.2	93.4	69.0-126			2.95	20
1,1,2-Trichloroethane	5.00	4.92	4.94	98.4	98.8	78.0-123			0.406	20
Trichloroethene	5.00	5.06	5.03	101	101	76.0-126			0.595	20
Trichlorofluoromethane	5.00	4.66	4.81	93.2	96.2	61.0-142			3.17	20
1,2,3-Trichloropropane	5.00	4.75	4.96	95.0	99.2	67.0-129			4.33	20
1,2,3-Trimethylbenzene	5.00	4.38	4.35	87.6	87.0	74.0-124			0.687	20
1,2,4-Trimethylbenzene	5.00	4.49	4.43	89.8	88.6	70.0-126			1.35	20
1,3,5-Trimethylbenzene	5.00	4.46	4.44	89.2	88.8	73.0-127			0.449	20
Vinyl chloride	5.00	4.17	4.25	83.4	85.0	63.0-134			1.90	20
Xylenes, Total	15.0	14.5	14.6	96.7	97.3	72.0-127			0.687	20
(S) Toluene-d8				102	101	75.0-131				
(S) 4-Bromofluorobenzene				102	103	67.0-138				
(S) 1,2-Dichloroethane-d4				98.9	99.5	70.0-130				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R3653410-1 05/12/21 10:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	52.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3653410-2 05/12/21 10:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	33.6	67.2	50.0-150	
(S) o-Terphenyl			55.1	18.0-148	

L1350377-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1350377-04 05/12/21 10:43 • (MS) R3653410-3 05/12/21 10:56 • (MSD) R3653410-4 05/12/21 11:09

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	59.1	ND	35.8	38.9	60.6	65.9	1	50.0-150			8.36	20
(S) o-Terphenyl					41.5	49.7		18.0-148				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3653914-1 05/13/21 09:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		33.3	100
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	93.0			31.0-160

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3653914-2 05/13/21 09:32 • (LCSD) R3653914-3 05/13/21 09:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1430	1370	95.3	91.3	50.0-150			4.29	20
(S) o-Terphenyl				98.5	96.0	31.0-160				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3653636-1 05/12/21 16:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mineral Spirits	U		1.33	4.00
Kerosene	U		1.33	4.00
#6 Fuel Oil	U		1.33	4.00
Hydraulic Fluid	U		1.33	4.00
Gasoline (C7-C12)	U		1.33	4.00
Diesel (C12-C24)	U		1.33	4.00
Motor Oil (C24-C30)	U		3.33	10.0
(S) o-Terphenyl	44.6			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3653636-2 05/12/21 16:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel (C12-C24)	50.0	30.4	60.8	50.0-150	
(S) o-Terphenyl			57.4	18.0-148	

L1350279-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1350279-02 05/13/21 00:15 • (MS) R3653636-3 05/13/21 00:28 • (MSD) R3653636-4 05/13/21 00:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel (C12-C24)	48.6	ND	29.6	39.4	60.9	81.1	1	50.0-150		J3	28.4	20
(S) o-Terphenyl					60.2	70.2		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.



# ACCREDITATIONS & LOCATIONS

DRAFT

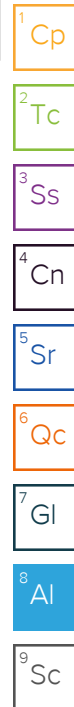
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1350377

DATE/TIME:

05/14/21 10:58

PAGE:

37 of 42

Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>				Billing Information: Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				Pres Chk		Analysis / Container / Preservative				Chain of Custody Page 1 of 2	
200 N. Wasco Ct. Hood River, OR 97031				Email To: msba@msbaenvironmental.com;jwhite@msbae											
Report to: <b>Jon White</b>				City/State Collected: <b>Vancouver, WA</b>				Please Circle: PT MT CT ET							
Project Description: <b>North Star Casteel</b>				Client Project # <b>North Star</b>				Lab Project # <b>MSBAHROR-NSTARCASTEE</b>							
Phone: <b>541-387-4422</b>				Site/Facility ID #				P.O. # <b>North Star</b>							
Collected by (print): <b>Jon White</b>				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Quote #							
Collected by (signature): <i>John Chen for Jon White</i>				Date Results Needed				No. of Cntrs							
Immediately Packed on Ice <input checked="" type="checkbox"/> N <input type="checkbox"/> Y															
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time										
SE-12	Grab	SS	12	4/29/21	15:05										
S18-0		SS	0		09:27	3									-01
S19-0		SS	0		10:03	3									02
S20-9		SS	9		12:13	2									03
S20-9 Dup		SS	9		12:13	2									04
S21-9		SS	9		12:25	4									05
S22-9		SS	9		12:33	3									06
S23-1		SS	1		15:21	3									07
S24-1		SS	1		15:35	3									08
S25-1.5		SS	1.5		16:22	3									09
Matrix: S - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other				Remarks: <b>MSBA will email analytical reports</b>				pH _____ Temp _____ Flow _____ Other _____				Sample Receipt Checklist COC Seal Present/Intact: <input type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input type="checkbox"/> Y <input type="checkbox"/> N If applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 nR/hr: <input type="checkbox"/> Y <input type="checkbox"/> N			
Samples returned via: UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>				Tracking # <b>9463 1922 2551</b>											
Relinquished by: (Signature) <i>John Chen</i>				Date: <b>4/30/21</b>		Time: <b>15:30</b>		Received by: (Signature)				Trip Blank Received: Yes/No HCL/Mech TBR			
Relinquished by: (Signature)				Date:		Time:		Received by: (Signature)				Temp: °C Bottles Received:		If preservation required by LogIn: Date/Time	
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature)				Date: Time:		Hold: Condition: NCF / OK	



**D063**

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

SDG # **61350377**

**05-097**

Acctnum: **MSBAHROR**

Template: **T186091**

Preligin: **P842230**

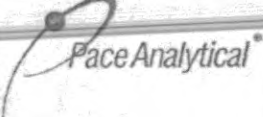
PM: **110 - Brian Ford**

PB:

Shipped Via:

Remarks Sample # (lab only)

**IN 5/10/21**

Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>				Billing Information: Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				Analysis / Container / Preservative				Chain of Custody Page <b>2 of 2</b>							
200 N. Wasco Ct. Hood River, OR 97031				Email To: msba@msbaenvironmental.com;jwhite@msbae								 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/files/pace-standard-terms.pdf">https://info.pacelabs.com/files/pace-standard-terms.pdf</a>							
Report to: <b>Jon White</b>				City/State Collected: <b>Vancouver, WA</b> Please Circle: <b>PT</b> MT CT ET															
Project Description: North Star Casteel				Client Project # <b>North Star</b>				Lab Project # <b>MSBAHROR-NSTARCASTEE</b>				SDG # <b>L1350377</b>							
Phone: <b>541-387-4422</b>				Site/Facility ID #				P.O. # <b>North Star</b>				Table #							
Collected by (print): <b>Jon White</b>				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Date Results Needed				Acctnum: <b>MSBAHROR</b>							
Collected by (signature): <i>Josh Owen for Jon White</i>				Quote #								Template: <b>T186091</b>							
Immediately Packed on Ice: <b>N</b> <input checked="" type="checkbox"/> <b>Y</b> <input checked="" type="checkbox"/>												Prelogin: <b>P842230</b>							
												PM: <b>110 - Brian Ford</b>							
												PB:							
												Shipped Via:							
Sample ID				Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Cd,Cr,Pb 6020 8ozClr-NoPres	Cr6 7199 4ozClr-NoPres	NWTPHDX NOSGT 8ozClr-NoPres	PAHs 8270ESIM 8ozClr-NoPres	VOCs 8260D 40mlAmb/MeOH10ml/Syr	NWTPH-HCID	Total As,Cd,Cr,Pb	Hold	Remarks	Sample # (lab only)
S25-2	Grab	SS	2	4/29/21	16:57	3													
S26-2.5		SS	2.5		17:42	3			✓										10
S26-2.5 Dup		SS	2.5		17:42	3			✓										11
S27-2.5		SS	2.5		17:49	3			✓										12
S28-B		SS	8		18:00	3								✓					13
EB-3		OT			11:42	11				✓					✓				14
Trip Blank		OT				2							✓						15

\* Matrix: SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other **Blank (equipment trip)**

Remarks: **MSBA will email analytical requests**

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier Tracking # \_\_\_\_\_

Relinquished by: (Signature) *Josh Owen* Date: **4/30/21** Time: **15:30**

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Sample Receipt Checklist**

COC Seal Present/Intact: ☐ NP ☐ Y ☐ N

COC Signed/Accurate: ☐ Y ☐ N

Bottles arrive intact: ☐ Y ☐ N

Correct bottles used: ☐ Y ☐ N

Sufficient volume sent: ☐ Y ☐ N

If Applicable

VQA Zero Headspace: ☐ Y ☐ N

Preservation Correct/Checked: ☐ Y ☐ N

RAD Screen <0.5 µS/hr: ☐ Y ☐ N


Trip Blank Received: Yes/No ☐ HCL/MeOH TBR

Temp: \_\_\_\_\_ °C Bottles Received: \_\_\_\_\_

If preservation required by Login: Date/Time \_\_\_\_\_

Hold: \_\_\_\_\_ Condition: NCF / OK



Company/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>				Billing Information: Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				Pres Chk		Analysis / Container / Preservative								Chain of Custody Page <u>1</u> of <u>2</u>	
200 N. Wasco Ct. Hood River, OR 97031				Report to: <b>Jon White</b>				Email To: msba@msbaenvironmental.com;jwhite@msbae		 <p>12065 Lebanon Rd. Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubs/pas-standard-terms.pdf">https://info.pacelabs.com/hubs/pas-standard-terms.pdf</a></p>								SDG # <u>L1350377</u>	
Project Description: North Star Casteel				City/State Collected: <u>Vancouver, WA</u>		Please Circle: PT MT CT ET <u>PT</u>		Table #											
Phone: <b>541-387-4422</b>		Client Project # <u>North Star</u>		Lab Project # MSBAHROR-NSTARCASTEE		Acctnum: <b>MSBAHROR</b>													
Collected by (print): <u>Jon White</u>		Site/Facility ID #		P.O. # <u>North Star</u>		Template: <b>T186091</b>													
Collected by (signature): <u>Josh Owen for Jon White</u>		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #		Prelogin: <b>P842230</b>													
Immediately		Date Results Needed		No. of Cntrs		PM: <b>110 - Brian Ford</b>													
Packed on Ice <u>N</u> <u>Y</u> <input checked="" type="checkbox"/>						PB:													
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	Shipped Via:												
							Remarks												
							Sample # (lab only)												
SE-12		Grab	SS	12	4/29/21	15:05													
S18-0			SS	0		09:27													
S19-0			SS	0		10:03													
S20-9			SS	9		12:13													
S20-9 Dup			SS	9		12:13													
S21-9			SS	9		12:25													
S22-9			SS	9		12:33													
S23-1			SS	1		15:21													
S24-1			SS	1		15:35													
S25-1.5			SS	1.5		16:22													
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: <u>MSBA will email analytical requests</u>				pH _____ Temp _____ Flow _____ Other _____													
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # <u>946319222687/2551</u>				Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N													
Relinquished by: (Signature) <u>Josh Owen</u>		Date: <u>4/30/21</u>	Time: <u>15:30</u>	Received by: (Signature)		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCL / MeOH TBR													
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: <u>4°C</u> Bottles Received: <u>57</u>													
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) <u>Paul Smith</u>		Date: <u>5/1/21</u> Time: <u>1000</u>													
				Hold:		Condition: NCF / <input checked="" type="checkbox"/> OK													

[illegible]

R1/R2

**MSBAHROR log off hold**

Please log off hold per the attached revised COC as **05/11 RX**. I did not receive a HOLD COC or Hold number from Project Service, but these were received Sat 05/01 (fedex #s 946319222551 and 946319222687)

**Time estimate:** oh**Time spent:** oh**Members**

Brian Ford

**Comments**

Andy Vann

Logged to L1350377

10 May 2021 09:18



# DRAFT

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8) Sample Date 4/30/21 (#L1352800)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1352800  
Samples Received: 05/04/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/30/21 15:52

Received date/time  
05/04/21 12:00

S38-1.5 L1352800-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665910	1	05/06/21 17:02	05/06/21 17:13	JAV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1670595	1	04/30/21 15:52	05/14/21 15:58	ACG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1671620	1	05/17/21 06:46	05/18/21 11:53	AMM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1670778	1	05/14/21 15:11	05/15/21 19:50	LEA	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1352800

DATE/TIME:

05/19/21 18:22

PAGE:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.0		1	05/06/2021 17:13	<a href="#">WG1665910</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND	<a href="#">J3 J4</a>	0.0692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Acrylonitrile	ND	<a href="#">J3 J4</a>	0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Benzene	0.00321		0.00138	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Bromobenzene	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Bromodichloromethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Bromoform	ND		0.0346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Bromomethane	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
n-Butylbenzene	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
sec-Butylbenzene	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
tert-Butylbenzene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Carbon disulfide	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Carbon tetrachloride	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Chlorobenzene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Chlorodibromomethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Chloroethane	ND	<a href="#">C3</a>	0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Chloroform	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Chloromethane	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
2-Chlorotoluene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
4-Chlorotoluene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2-Dibromo-3-Chloropropane	ND	<a href="#">J3</a>	0.0346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2-Dibromoethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Dibromomethane	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2-Dichlorobenzene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,3-Dichlorobenzene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,4-Dichlorobenzene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Dichlorodifluoromethane	ND	<a href="#">C3</a>	0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,1-Dichloroethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2-Dichloroethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,1-Dichloroethene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
cis-1,2-Dichloroethene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
trans-1,2-Dichloroethene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2-Dichloropropane	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,1-Dichloropropene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,3-Dichloropropane	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
cis-1,3-Dichloropropene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
trans-1,3-Dichloropropene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
2,2-Dichloropropane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Di-isopropyl ether	ND		0.00138	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Ethylbenzene	0.00627		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Hexachloro-1,3-butadiene	ND		0.0346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Isopropylbenzene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
p-Isopropyltoluene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
2-Butanone (MEK)	ND	<a href="#">J3</a>	0.138	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Methylene Chloride	ND		0.0346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
4-Methyl-2-pentanone (MIBK)	ND	<a href="#">J3</a>	0.0346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Methyl tert-butyl ether	ND	<a href="#">J3</a>	0.00138	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Naphthalene	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
n-Propylbenzene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Styrene	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,1,1,2-Tetrachloroethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,1,2-Trichlorotrifluoroethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Tetrachloroethene	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Toluene	0.0181		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2,3-Trichlorobenzene	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2,4-Trichlorobenzene	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,1,1-Trichloroethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,1,2-Trichloroethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Trichloroethene	ND		0.00138	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Trichlorofluoromethane	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2,3-Trichloropropane	ND		0.0173	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2,4-Trimethylbenzene	0.0106		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,2,3-Trimethylbenzene	ND	<a href="#">C3 J4</a>	0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
1,3,5-Trimethylbenzene	ND		0.00692	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Vinyl chloride	ND		0.00346	1	05/14/2021 15:58	<a href="#">WG1670595</a>
Xylenes, Total	0.0269		0.00900	1	05/14/2021 15:58	<a href="#">WG1670595</a>
(S) Toluene-d8	102		75.0-131		05/14/2021 15:58	<a href="#">WG1670595</a>
(S) 4-Bromofluorobenzene	103		67.0-138		05/14/2021 15:58	<a href="#">WG1670595</a>
(S) 1,2-Dichloroethane-d4	103		70.0-130		05/14/2021 15:58	<a href="#">WG1670595</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0400	1	05/18/2021 11:53	<a href="#">WG1671620</a>
PCB 1221	ND		0.0400	1	05/18/2021 11:53	<a href="#">WG1671620</a>
PCB 1232	ND		0.0400	1	05/18/2021 11:53	<a href="#">WG1671620</a>
PCB 1242	ND		0.0400	1	05/18/2021 11:53	<a href="#">WG1671620</a>
PCB 1248	ND		0.0200	1	05/18/2021 11:53	<a href="#">WG1671620</a>
PCB 1254	ND		0.0200	1	05/18/2021 11:53	<a href="#">WG1671620</a>
PCB 1260	0.106		0.0200	1	05/18/2021 11:53	<a href="#">WG1671620</a>
PCB 1268	ND		0.0200	1	05/18/2021 11:53	<a href="#">WG1671620</a>
(S) Decachlorobiphenyl	106		10.0-135		05/18/2021 11:53	<a href="#">WG1671620</a>
(S) Tetrachloro-m-xylene	107		10.0-139		05/18/2021 11:53	<a href="#">WG1671620</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Acenaphthene	ND		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Acenaphthylene	ND		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Benzo(a)anthracene	0.00887		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Benzo(a)pyrene	0.00747		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Benzo(b)fluoranthene	0.0160		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Benzo(g,h,i)perylene	0.0161		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Benzo(k)fluoranthene	ND		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Chrysene	0.0100		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Dibenz(a,h)anthracene	ND		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Fluoranthene	0.0120		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Fluorene	ND		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Indeno(1,2,3-cd)pyrene	ND		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Naphthalene	ND		0.0235	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Phenanthrene	0.00963		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
Pyrene	0.0196		0.00706	1	05/15/2021 19:50	<a href="#">WG1670778</a>
1-Methylnaphthalene	ND		0.0235	1	05/15/2021 19:50	<a href="#">WG1670778</a>
2-Methylnaphthalene	ND		0.0235	1	05/15/2021 19:50	<a href="#">WG1670778</a>

S38-1.5

## SAMPLE RESULTS - 01

Collected date/time: 04/30/21 15:52

L1352800

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
2-Chloronaphthalene	ND		0.0235	1	05/15/2021 19:50	<a href="#">WG1670778</a>
(S) Nitrobenzene-d5	82.2		14.0-149		05/15/2021 19:50	<a href="#">WG1670778</a>
(S) 2-Fluorobiphenyl	66.3		34.0-125		05/15/2021 19:50	<a href="#">WG1670778</a>
(S) p-Terphenyl-d14	83.0		23.0-120		05/15/2021 19:50	<a href="#">WG1670778</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1352800

DATE/TIME:

05/19/21 18:22

PAGE:

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Method Blank (MB)

(MB) R3651651-1 05/06/21 17:13

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

L1347640-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1347640-10 05/06/21 17:13 • (DUP) R3651651-3 05/06/21 17:13

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	85.0	88.8	1	4.35		10

Laboratory Control Sample (LCS)

(LCS) R3651651-2 05/06/21 17:13

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3655828-2 05/14/21 09:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon disulfide	U		0.000700	0.0125
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3655828-2 05/14/21 09:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Isopropylbenzene	U		0.000425	0.00250
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.113		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	101			75.0-131
(S) 4-Bromofluorobenzene	103			67.0-138
(S) 1,2-Dichloroethane-d4	102			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3655828-1 05/14/21 09:01 • (LCSD) R3655828-3 05/14/21 19:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	1.43	0.589	229	94.2	10.0-160	J4	J3	83.3	31
Acrylonitrile	0.625	1.09	0.487	174	77.9	45.0-153	J4	J3	76.5	22
Benzene	0.125	0.130	0.124	104	99.2	70.0-123			4.72	20
Bromobenzene	0.125	0.125	0.120	100	96.0	73.0-121			4.08	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3655828-1 05/14/21 09:01 • (LCSD) R3655828-3 05/14/21 19:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromodichloromethane	0.125	0.115	0.114	92.0	91.2	73.0-121			0.873	20
Bromoform	0.125	0.135	0.128	108	102	64.0-132			5.32	20
Bromomethane	0.125	0.119	0.131	95.2	105	56.0-147			9.60	20
n-Butylbenzene	0.125	0.111	0.109	88.8	87.2	68.0-135			1.82	20
sec-Butylbenzene	0.125	0.111	0.113	88.8	90.4	74.0-130			1.79	20
tert-Butylbenzene	0.125	0.108	0.113	86.4	90.4	75.0-127			4.52	20
Carbon disulfide	0.125	0.110	0.111	88.0	88.8	56.0-133			0.905	20
Carbon tetrachloride	0.125	0.134	0.137	107	110	66.0-128			2.21	20
Chlorobenzene	0.125	0.121	0.120	96.8	96.0	76.0-128			0.830	20
Chlorodibromomethane	0.125	0.130	0.123	104	98.4	74.0-127			5.53	20
Chloroethane	0.125	0.0971	0.102	77.7	81.6	61.0-134			4.92	20
Chloroform	0.125	0.120	0.111	96.0	88.8	72.0-123			7.79	20
Chloromethane	0.125	0.115	0.116	92.0	92.8	51.0-138			0.866	20
2-Chlorotoluene	0.125	0.120	0.115	96.0	92.0	75.0-124			4.26	20
4-Chlorotoluene	0.125	0.107	0.100	85.6	80.0	75.0-124			6.76	20
1,2-Dibromo-3-Chloropropane	0.125	0.134	0.106	107	84.8	59.0-130		J3	23.3	20
1,2-Dibromoethane	0.125	0.128	0.123	102	98.4	74.0-128			3.98	20
Dibromomethane	0.125	0.142	0.125	114	100	75.0-122			12.7	20
1,2-Dichlorobenzene	0.125	0.129	0.121	103	96.8	76.0-124			6.40	20
1,3-Dichlorobenzene	0.125	0.118	0.115	94.4	92.0	76.0-125			2.58	20
1,4-Dichlorobenzene	0.125	0.116	0.110	92.8	88.0	77.0-121			5.31	20
Dichlorodifluoromethane	0.125	0.0976	0.107	78.1	85.6	43.0-156			9.19	20
1,1-Dichloroethane	0.125	0.129	0.120	103	96.0	70.0-127			7.23	20
1,2-Dichloroethane	0.125	0.126	0.113	101	90.4	65.0-131			10.9	20
1,1-Dichloroethene	0.125	0.114	0.117	91.2	93.6	65.0-131			2.60	20
cis-1,2-Dichloroethene	0.125	0.135	0.129	108	103	73.0-125			4.55	20
trans-1,2-Dichloroethene	0.125	0.119	0.113	95.2	90.4	71.0-125			5.17	20
1,2-Dichloropropane	0.125	0.126	0.119	101	95.2	74.0-125			5.71	20
1,1-Dichloropropene	0.125	0.114	0.121	91.2	96.8	73.0-125			5.96	20
1,3-Dichloropropane	0.125	0.127	0.125	102	100	80.0-125			1.59	20
cis-1,3-Dichloropropene	0.125	0.116	0.121	92.8	96.8	76.0-127			4.22	20
trans-1,3-Dichloropropene	0.125	0.118	0.117	94.4	93.6	73.0-127			0.851	20
2,2-Dichloropropane	0.125	0.142	0.138	114	110	59.0-135			2.86	20
Di-isopropyl ether	0.125	0.135	0.115	108	92.0	60.0-136			16.0	20
Ethylbenzene	0.125	0.124	0.124	99.2	99.2	74.0-126			0.000	20
Hexachloro-1,3-butadiene	0.125	0.134	0.129	107	103	57.0-150			3.80	20
Isopropylbenzene	0.125	0.120	0.124	96.0	99.2	72.0-127			3.28	20
p-Isopropyltoluene	0.125	0.111	0.113	88.8	90.4	72.0-133			1.79	20
2-Butanone (MEK)	0.625	0.890	0.558	142	89.3	30.0-160		J3	45.9	24
Methylene Chloride	0.125	0.132	0.111	106	88.8	68.0-123			17.3	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3655828-1 05/14/21 09:01 • (LCSD) R3655828-3 05/14/21 19:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.625	0.753	0.608	120	97.3	56.0-143		J3	21.3	20
Methyl tert-butyl ether	0.125	0.163	0.110	130	88.0	66.0-132		J3	38.8	20
Naphthalene	0.125	0.124	0.115	99.2	92.0	59.0-130			7.53	20
n-Propylbenzene	0.125	0.108	0.106	86.4	84.8	74.0-126			1.87	20
Styrene	0.125	0.118	0.117	94.4	93.6	72.0-127			0.851	20
1,1,1,2-Tetrachloroethane	0.125	0.143	0.136	114	109	74.0-129			5.02	20
1,1,2,2-Tetrachloroethane	0.125	0.115	0.104	92.0	83.2	68.0-128			10.0	20
Tetrachloroethene	0.125	0.129	0.135	103	108	70.0-136			4.55	20
Toluene	0.125	0.122	0.122	97.6	97.6	75.0-121			0.000	20
1,1,2-Trichlorotrifluoroethane	0.125	0.127	0.139	102	111	61.0-139			9.02	20
1,2,3-Trichlorobenzene	0.125	0.128	0.118	102	94.4	59.0-139			8.13	20
1,2,4-Trichlorobenzene	0.125	0.135	0.128	108	102	62.0-137			5.32	20
1,1,1-Trichloroethane	0.125	0.125	0.123	100	98.4	69.0-126			1.61	20
1,1,2-Trichloroethane	0.125	0.123	0.117	98.4	93.6	78.0-123			5.00	20
Trichloroethene	0.125	0.128	0.132	102	106	76.0-126			3.08	20
Trichlorofluoromethane	0.125	0.110	0.120	88.0	96.0	61.0-142			8.70	20
1,2,3-Trichloropropane	0.125	0.134	0.114	107	91.2	67.0-129			16.1	20
1,2,3-Trimethylbenzene	0.125	0.0863	0.0839	69.0	67.1	74.0-124	J4	J4	2.82	20
1,2,4-Trimethylbenzene	0.125	0.110	0.110	88.0	88.0	70.0-126			0.000	20
1,3,5-Trimethylbenzene	0.125	0.110	0.111	88.0	88.8	73.0-127			0.905	20
Vinyl chloride	0.125	0.109	0.111	87.2	88.8	63.0-134			1.82	20
Xylenes, Total	0.375	0.370	0.371	98.7	98.9	72.0-127			0.270	20
(S) Toluene-d8				100	101	75.0-131				
(S) 4-Bromofluorobenzene				102	103	67.0-138				
(S) 1,2-Dichloroethane-d4				111	103	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3655878-1 05/18/21 10:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
PCB 1016	U		0.0118	0.0340
PCB 1221	U		0.0118	0.0340
PCB 1232	U		0.0118	0.0340
PCB 1242	U		0.0118	0.0340
PCB 1248	U		0.00738	0.0170
PCB 1254	U		0.00738	0.0170
PCB 1260	U		0.00738	0.0170
PCB 1268	U		0.00738	0.0170
(S) Decachlorobiphenyl	57.8			10.0-135
(S) Tetrachloro-m-xylene	53.5			10.0-139

Laboratory Control Sample (LCS)

(LCS) R3655878-2 05/18/21 11:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	0.167	0.126	75.4	37.0-145	
PCB 1016	0.167	0.127	76.0	36.0-141	
(S) Decachlorobiphenyl			76.9	10.0-135	
(S) Tetrachloro-m-xylene			83.2	10.0-139	

L1352800-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1352800-01 05/18/21 11:53 • (MS) R3655878-3 05/18/21 12:05 • (MSD) R3655878-4 05/18/21 12:17

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1260	0.196	0.106	0.389	0.287	144	94.0	1	10.0-160			30.3	38
PCB 1016	0.196	ND	0.258	0.246	131	127	1	10.0-160			4.67	37
(S) Decachlorobiphenyl					100	118		10.0-135				
(S) Tetrachloro-m-xylene					112	119		10.0-139				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3655104-2 05/15/21 13:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	64.7			14.0-149
(S) 2-Fluorobiphenyl	61.9			34.0-125
(S) p-Terphenyl-d14	75.9			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3655104-1 05/15/21 13:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0659	82.4	50.0-126	
Acenaphthene	0.0800	0.0639	79.9	50.0-120	
Acenaphthylene	0.0800	0.0688	86.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0668	83.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0462	57.8	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0567	70.9	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0547	68.4	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0578	72.3	49.0-125	
Chrysene	0.0800	0.0649	81.1	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0591	73.9	47.0-125	
Fluoranthene	0.0800	0.0641	80.1	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3655104-1 05/15/21 13:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0693	86.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0586	73.3	46.0-125	
Naphthalene	0.0800	0.0630	78.8	50.0-120	
Phenanthrene	0.0800	0.0649	81.1	47.0-120	
Pyrene	0.0800	0.0662	82.8	43.0-123	
1-Methylnaphthalene	0.0800	0.0592	74.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0588	73.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0617	77.1	50.0-120	
(S) Nitrobenzene-d5			78.2	14.0-149	
(S) 2-Fluorobiphenyl			74.5	34.0-125	
(S) p-Terphenyl-d14			85.9	23.0-120	

L1348896-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1348896-11 05/15/21 17:07 • (MS) R3655104-3 05/15/21 17:16 • (MSD) R3655104-4 05/15/21 17:25

Analyte	Spike Amount (dry) mg/kg	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0780	0.0117	0.0843	0.0636	65.1	46.1	1	10.0-145			28.0	30
Acenaphthene	0.0780	ND	0.0773	0.0873	69.4	77.5	1	14.0-127			12.2	27
Acenaphthylene	0.0780	ND	0.0616	0.0621	55.3	55.2	1	21.0-124			0.924	25
Benzo(a)anthracene	0.0780	ND	0.0691	0.0620	62.1	55.1	1	10.0-139			10.9	30
Benzo(a)pyrene	0.0780	ND	0.0607	0.0526	54.5	46.7	1	10.0-141			14.4	31
Benzo(b)fluoranthene	0.0780	ND	0.0646	0.0556	57.9	49.4	1	10.0-140			15.0	36
Benzo(g,h,i)perylene	0.0780	ND	0.0520	0.0449	46.7	39.8	1	10.0-140			14.7	33
Benzo(k)fluoranthene	0.0780	ND	0.0649	0.0573	58.2	50.9	1	10.0-137			12.4	31
Chrysene	0.0780	ND	0.0706	0.0610	63.3	54.2	1	10.0-145			14.5	30
Dibenz(a,h)anthracene	0.0780	ND	0.0580	0.0480	52.1	42.6	1	10.0-132			18.9	31
Fluoranthene	0.0780	ND	0.0643	0.0624	53.5	51.3	1	10.0-153			2.93	33
Fluorene	0.0780	0.0837	0.122	0.166	34.0	72.8	1	11.0-130		J3	30.7	29
Indeno(1,2,3-cd)pyrene	0.0780	ND	0.0559	0.0469	50.1	41.6	1	10.0-137			17.5	32
Naphthalene	0.0780	0.661	0.604	0.906	0.000	217	1	10.0-135	V	J3 V	39.9	27
Phenanthrene	0.0780	0.0613	0.106	0.143	39.7	72.5	1	10.0-144			30.0	31
Pyrene	0.0780	0.00869	0.0763	0.0733	60.7	57.4	1	10.0-148			4.01	35
1-Methylnaphthalene	0.0780	0.807	0.646	1.13	0.000	291	1	10.0-142	V	J3 V	54.9	28
2-Methylnaphthalene	0.0780	1.61	1.30	2.19	0.000	508	1	10.0-137	V	J3 V	50.5	28
2-Chloronaphthalene	0.0780	ND	0.0690	0.0733	50.7	54.0	1	29.0-120			6.02	24
(S) Nitrobenzene-d5					110	105		14.0-149				
(S) 2-Fluorobiphenyl					53.8	47.0		34.0-125				
(S) p-Terphenyl-d14					70.8	59.0		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
V	The sample concentration is too high to evaluate accurate spike recoveries.

# ACCREDITATIONS & LOCATIONS

DRAFT

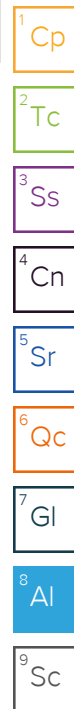
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1352800

DATE/TIME:

05/19/21 18:22

PAGE:

17 of 19



[illegible]

L1347640 MSBAHROR re-log short hold

R1/R2

Please re-log L1347640-10 (S38-1.5) for V8260C,SV8270PAHSIMD,SV8082,TS as R4 due 05/19. hold time expires tomorrow (Fri 05/14). transfer TS.

Time estimate: oh

Time spent: oh

Members



Brian Ford

# DRAFT

---

9) Sample Date 4/30/21 (#L1347640)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1347640  
Samples Received: 05/04/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/30/21 09:34

Received date/time  
05/04/21 12:00

## S29-1 L1347640-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1667230	1	05/10/21 11:28	05/11/21 04:49	AMM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 10:00

Received date/time  
05/04/21 12:00

## S30-0.5 L1347640-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1667230	1	05/10/21 11:28	05/11/21 17:43	SSH	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 10:25

Received date/time  
05/04/21 12:00

## S31-0 L1347640-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 17:58	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 12:33

Received date/time  
05/04/21 12:00

## S32-1.5 L1347640-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 16:17	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 12:56

Received date/time  
05/04/21 12:00

## S33-9 L1347640-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665926	1	04/30/21 12:56	05/07/21 01:08	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 16:30	CAG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1667230	1	05/10/21 11:28	05/11/21 05:12	AMM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 13:29

Received date/time  
05/04/21 12:00

## S34-2 L1347640-06 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 16:42	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 15:12

Received date/time  
05/04/21 12:00

## S35-0.5 L1347640-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 19:26	CAG	Mt. Juliet, TN

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/30/21 15:18

Received date/time  
05/04/21 12:00

## S36-1 L1347640-08 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 18:52	LD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	10	05/08/21 06:40	05/08/21 19:52	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 15:24

Received date/time  
05/04/21 12:00

## S37-1 L1347640-09 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 18:56	LD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 15:52	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 15:52

Received date/time  
05/04/21 12:00

## S38-1.5 L1347640-10 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665910	1	05/06/21 17:02	05/06/21 17:13	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 21:53	TM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 18:11	CAG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	10	05/08/21 06:40	05/09/21 17:15	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 16:01

Received date/time  
05/04/21 12:00

## S39-1.5 L1347640-11 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665910	1	05/06/21 17:02	05/06/21 17:13	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 21:56	TM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	2	05/08/21 06:40	05/09/21 16:23	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 08:37

Received date/time  
05/04/21 12:00

## EB-4 L1347640-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1668047	1	05/10/21 20:48	05/11/21 07:48	AEG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1666428	1	05/08/21 07:15	05/08/21 16:52	AMM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1664944	1	05/06/21 00:00	05/06/21 14:07	LEA	Mt. Juliet, TN

Collected by  
Jon White

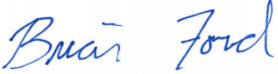
Collected date/time  
04/30/21 09:34

Received date/time  
05/04/21 12:00

## S29-1 DUP L1347640-16 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1667075	1	05/09/21 22:59	05/09/21 23:21	KDW	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1667230	1	05/10/21 11:28	05/11/21 05:24	AMM	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



S29-1

Collected date/time: 04/30/21 09:34

## SAMPLE RESULTS - 01

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.2		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0408	1	05/11/2021 04:49	<a href="#">WG1667230</a>
PCB 1221	ND		0.0408	1	05/11/2021 04:49	<a href="#">WG1667230</a>
PCB 1232	ND		0.0408	1	05/11/2021 04:49	<a href="#">WG1667230</a>
PCB 1242	ND		0.0408	1	05/11/2021 04:49	<a href="#">WG1667230</a>
PCB 1248	ND		0.0204	1	05/11/2021 04:49	<a href="#">WG1667230</a>
PCB 1254	ND		0.0204	1	05/11/2021 04:49	<a href="#">WG1667230</a>
PCB 1260	ND		0.0204	1	05/11/2021 04:49	<a href="#">WG1667230</a>
PCB 1268	ND		0.0204	1	05/11/2021 04:49	<a href="#">WG1667230</a>
(S) Decachlorobiphenyl	71.0		10.0-135		05/11/2021 04:49	<a href="#">WG1667230</a>
(S) Tetrachloro-m-xylene	84.4		10.0-139		05/11/2021 04:49	<a href="#">WG1667230</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S30-0.5

Collected date/time: 04/30/21 10:00

## SAMPLE RESULTS - 02

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.7		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0388	1	05/11/2021 17:43	<a href="#">WG1667230</a>
PCB 1221	ND		0.0388	1	05/11/2021 17:43	<a href="#">WG1667230</a>
PCB 1232	ND		0.0388	1	05/11/2021 17:43	<a href="#">WG1667230</a>
PCB 1242	ND		0.0388	1	05/11/2021 17:43	<a href="#">WG1667230</a>
PCB 1248	ND		0.0194	1	05/11/2021 17:43	<a href="#">WG1667230</a>
PCB 1254	0.0477		0.0194	1	05/11/2021 17:43	<a href="#">WG1667230</a>
PCB 1260	ND		0.0194	1	05/11/2021 17:43	<a href="#">WG1667230</a>
PCB 1268	ND		0.0194	1	05/11/2021 17:43	<a href="#">WG1667230</a>
(S) Decachlorobiphenyl	87.6		10.0-135		05/11/2021 17:43	<a href="#">WG1667230</a>
(S) Tetrachloro-m-xylene	101		10.0-139		05/11/2021 17:43	<a href="#">WG1667230</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

S31-0

Collected date/time: 04/30/21 10:25

SAMPLE RESULTS - 03

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.0		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	5.73		4.40	1	05/08/2021 17:58	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	42.0		11.0	1	05/08/2021 17:58	<a href="#">WG1666732</a>
(S) o-Terphenyl	87.5		18.0-148		05/08/2021 17:58	<a href="#">WG1666732</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S32-1.5

Collected date/time: 04/30/21 12:33

SAMPLE RESULTS - 04

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.2		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.81	1	05/08/2021 16:17	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	ND		12.0	1	05/08/2021 16:17	<a href="#">WG1666732</a>
(S) o-Terphenyl	77.4		18.0-148		05/08/2021 16:17	<a href="#">WG1666732</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.0		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Acrylonitrile	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Benzene	ND		0.00121	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Bromobenzene	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Bromodichloromethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Bromoform	ND		0.0303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Bromomethane	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
n-Butylbenzene	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
sec-Butylbenzene	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
tert-Butylbenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Carbon disulfide	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Carbon tetrachloride	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Chlorobenzene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Chlorodibromomethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Chloroethane	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Chloroform	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Chloromethane	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
2-Chlorotoluene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
4-Chlorotoluene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2-Dibromo-3-Chloropropane	ND		0.0303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2-Dibromoethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Dibromomethane	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2-Dichlorobenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,3-Dichlorobenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,4-Dichlorobenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Dichlorodifluoromethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,1-Dichloroethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2-Dichloroethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,1-Dichloroethene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
cis-1,2-Dichloroethene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
trans-1,2-Dichloroethene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2-Dichloropropane	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,1-Dichloropropene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,3-Dichloropropane	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
cis-1,3-Dichloropropene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
trans-1,3-Dichloropropene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
2,2-Dichloropropane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Di-isopropyl ether	ND		0.00121	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Ethylbenzene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Hexachloro-1,3-butadiene	ND		0.0303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Isopropylbenzene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
p-Isopropyltoluene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
2-Butanone (MEK)	ND		0.121	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Methylene Chloride	ND		0.0303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
4-Methyl-2-pentanone (MIBK)	ND		0.0303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Methyl tert-butyl ether	ND		0.00121	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Naphthalene	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
n-Propylbenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Styrene	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,1,1,2-Tetrachloroethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

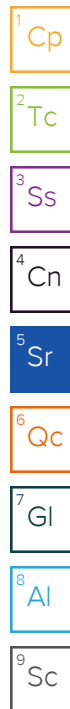
Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,1,2-Trichlorotrifluoroethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Tetrachloroethene	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Toluene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2,3-Trichlorobenzene	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2,4-Trichlorobenzene	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,1,1-Trichloroethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,1,2-Trichloroethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Trichloroethene	ND		0.00121	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Trichlorofluoromethane	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2,3-Trichloropropane	ND		0.0151	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2,4-Trimethylbenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,2,3-Trimethylbenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
1,3,5-Trimethylbenzene	ND		0.00605	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Vinyl chloride	ND		0.00303	1	05/07/2021 01:08	<a href="#">WG1665926</a>
Xylenes, Total	ND		0.00787	1	05/07/2021 01:08	<a href="#">WG1665926</a>
(S) Toluene-d8	101		75.0-131		05/07/2021 01:08	<a href="#">WG1665926</a>
(S) 4-Bromofluorobenzene	102		67.0-138		05/07/2021 01:08	<a href="#">WG1665926</a>
(S) 1,2-Dichloroethane-d4	95.3		70.0-130		05/07/2021 01:08	<a href="#">WG1665926</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.40	1	05/08/2021 16:30	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	ND		11.0	1	05/08/2021 16:30	<a href="#">WG1666732</a>
(S) o-Terphenyl	84.4		18.0-148		05/08/2021 16:30	<a href="#">WG1666732</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0374	1	05/11/2021 05:12	<a href="#">WG1667230</a>
PCB 1221	ND		0.0374	1	05/11/2021 05:12	<a href="#">WG1667230</a>
PCB 1232	ND		0.0374	1	05/11/2021 05:12	<a href="#">WG1667230</a>
PCB 1242	ND		0.0374	1	05/11/2021 05:12	<a href="#">WG1667230</a>
PCB 1248	ND		0.0187	1	05/11/2021 05:12	<a href="#">WG1667230</a>
PCB 1254	ND		0.0187	1	05/11/2021 05:12	<a href="#">WG1667230</a>
PCB 1260	ND		0.0187	1	05/11/2021 05:12	<a href="#">WG1667230</a>
PCB 1268	ND		0.0187	1	05/11/2021 05:12	<a href="#">WG1667230</a>
(S) Decachlorobiphenyl	105		10.0-135		05/11/2021 05:12	<a href="#">WG1667230</a>
(S) Tetrachloro-m-xylene	108		10.0-139		05/11/2021 05:12	<a href="#">WG1667230</a>



S34-2

Collected date/time: 04/30/21 13:29

SAMPLE RESULTS - 06

L1347640

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.3		1	05/06/2021 17:31	<a href="#">WG1665909</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4.63		4.58	1	05/08/2021 16:42	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	15.4		11.5	1	05/08/2021 16:42	<a href="#">WG1666732</a>
(S) o-Terphenyl	81.8		18.0-148		05/08/2021 16:42	<a href="#">WG1666732</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S35-0.5

Collected date/time: 04/30/21 15:12

## SAMPLE RESULTS - 07

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.5		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	22.8		4.42	1	05/08/2021 19:26	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	119		11.0	1	05/08/2021 19:26	<a href="#">WG1666732</a>
(S) o-Terphenyl	79.5		18.0-148		05/08/2021 19:26	<a href="#">WG1666732</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



S36-1

Collected date/time: 04/30/21 15:18

SAMPLE RESULTS - 08

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.9		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	5.00		1.10	5	05/09/2021 18:52	<a href="#">WG1666839</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		44.0	10	05/08/2021 19:52	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	271		110	10	05/08/2021 19:52	<a href="#">WG1666732</a>
(S) o-Terphenyl	82.7		18.0-148		05/08/2021 19:52	<a href="#">WG1666732</a>

## Sample Narrative:

L1347640-08 WG1666732: Cannot run at lower dilution due to viscosity of extract

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S37-1

Collected date/time: 04/30/21 15:24

SAMPLE RESULTS - 09

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	79.3		1	05/06/2021 17:31	<a href="#">WG1665909</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	1.77		1.26	5	05/09/2021 18:56	<a href="#">WG1666839</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		5.04	1	05/08/2021 15:52	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	ND		12.6	1	05/08/2021 15:52	<a href="#">WG1666732</a>
(S) o-Terphenyl	58.5		18.0-148		05/08/2021 15:52	<a href="#">WG1666732</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S38-1.5

Collected date/time: 04/30/21 15:52

## SAMPLE RESULTS - 10

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.0		1	05/06/2021 17:13	<a href="#">WG1665910</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.16		1.18	5	05/09/2021 21:53	<a href="#">WG1666839</a>
Cadmium	ND		1.18	5	05/09/2021 21:53	<a href="#">WG1666839</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Diesel Range Organics (DRO)	288		4.70	1	05/08/2021 18:11	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	1580		118	10	05/09/2021 17:15	<a href="#">WG1666732</a>
(S) o-Terphenyl	46.4		18.0-148		05/09/2021 17:15	<a href="#">WG1666732</a>
(S) o-Terphenyl	80.1		18.0-148		05/08/2021 18:11	<a href="#">WG1666732</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1347640

DATE/TIME:

05/12/21 18:54

PAGE:

16 of 42

S39-1.5

Collected date/time: 04/30/21 16:01

## SAMPLE RESULTS - 11

L1347640

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.2		1	05/06/2021 17:13	<a href="#">WG1665910</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	27.2		1.13	5	05/09/2021 21:56	<a href="#">WG1666839</a>
Cadmium	1.33		1.13	5	05/09/2021 21:56	<a href="#">WG1666839</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Diesel Range Organics (DRO)	68.6		9.07	2	05/09/2021 16:23	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	175		22.7	2	05/09/2021 16:23	<a href="#">WG1666732</a>
(S) o-Terphenyl	45.5		18.0-148		05/09/2021 16:23	<a href="#">WG1666732</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	05/11/2021 07:48	<a href="#">WG1668047</a>
Residual Range Organics (RRO)	ND		250	1	05/11/2021 07:48	<a href="#">WG1668047</a>
(S) o-Terphenyl	80.5		52.0-156		05/11/2021 07:48	<a href="#">WG1668047</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.500	1	05/08/2021 16:52	<a href="#">WG1666428</a>
PCB 1221	ND		0.500	1	05/08/2021 16:52	<a href="#">WG1666428</a>
PCB 1232	ND		0.500	1	05/08/2021 16:52	<a href="#">WG1666428</a>
PCB 1242	ND		0.500	1	05/08/2021 16:52	<a href="#">WG1666428</a>
PCB 1248	ND		0.500	1	05/08/2021 16:52	<a href="#">WG1666428</a>
PCB 1254	ND		0.500	1	05/08/2021 16:52	<a href="#">WG1666428</a>
PCB 1260	ND		0.500	1	05/08/2021 16:52	<a href="#">WG1666428</a>
(S) Decachlorobiphenyl	113		10.0-128		05/08/2021 16:52	<a href="#">WG1666428</a>
(S) Tetrachloro-m-xylene	92.9		10.0-127		05/08/2021 16:52	<a href="#">WG1666428</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Acenaphthene	ND		0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Acenaphthylene	ND		0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Benzo(a)anthracene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Benzo(a)pyrene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Benzo(b)fluoranthene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Benzo(g,h,i)perylene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Benzo(k)fluoranthene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Chrysene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Dibenz(a,h)anthracene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Fluoranthene	ND		0.100	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Fluorene	ND		0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Indeno(1,2,3-cd)pyrene	ND	<a href="#">J3</a>	0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Naphthalene	ND		0.250	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Phenanthrene	ND		0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
Pyrene	ND		0.0500	1	05/06/2021 14:07	<a href="#">WG1664944</a>
1-Methylnaphthalene	ND		0.250	1	05/06/2021 14:07	<a href="#">WG1664944</a>
2-Methylnaphthalene	ND		0.250	1	05/06/2021 14:07	<a href="#">WG1664944</a>
2-Chloronaphthalene	ND		0.250	1	05/06/2021 14:07	<a href="#">WG1664944</a>
(S) Nitrobenzene-d5	90.5		31.0-160		05/06/2021 14:07	<a href="#">WG1664944</a>
(S) 2-Fluorobiphenyl	94.5		48.0-148		05/06/2021 14:07	<a href="#">WG1664944</a>
(S) p-Terphenyl-d14	108		37.0-146		05/06/2021 14:07	<a href="#">WG1664944</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.2		1	05/09/2021 23:21	<a href="#">WG1667075</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0414	1	05/11/2021 05:24	<a href="#">WG1667230</a>
PCB 1221	ND		0.0414	1	05/11/2021 05:24	<a href="#">WG1667230</a>
PCB 1232	ND		0.0414	1	05/11/2021 05:24	<a href="#">WG1667230</a>
PCB 1242	ND		0.0414	1	05/11/2021 05:24	<a href="#">WG1667230</a>
PCB 1248	ND		0.0207	1	05/11/2021 05:24	<a href="#">WG1667230</a>
PCB 1254	ND		0.0207	1	05/11/2021 05:24	<a href="#">WG1667230</a>
PCB 1260	ND		0.0207	1	05/11/2021 05:24	<a href="#">WG1667230</a>
PCB 1268	ND		0.0207	1	05/11/2021 05:24	<a href="#">WG1667230</a>
(S) Decachlorobiphenyl	78.8		10.0-135		05/11/2021 05:24	<a href="#">WG1667230</a>
(S) Tetrachloro-m-xylene	84.0		10.0-139		05/11/2021 05:24	<a href="#">WG1667230</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3651652-1 05/06/21 17:31

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

L1347640-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1347640-06 05/06/21 17:31 • (DUP) R3651652-3 05/06/21 17:31

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	87.3	88.9	1	1.85		10

Laboratory Control Sample (LCS)

(LCS) R3651652-2 05/06/21 17:31

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3651651-1 05/06/21 17:13

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1347640-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1347640-10 05/06/21 17:13 • (DUP) R3651651-3 05/06/21 17:13

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	85.0	88.8	1	4.35		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3651651-2 05/06/21 17:13

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3652307-1 05/09/21 23:21

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00300			

1Cp

2Tc

3Ss

L1348518-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1348518-07 05/09/21 23:21 • (DUP) R3652307-3 05/09/21 23:21

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	80.7	81.1	1	0.578		10

4Cn

5Sr

6Qc

Laboratory Control Sample (LCS)

(LCS) R3652307-2 05/09/21 23:21

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3652184-1 05/09/21 18:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Arsenic	U		0.100	1.00
Cadmium	U		0.0855	1.00

Laboratory Control Sample (LCS)

(LCS) R3652184-2 05/09/21 18:28

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	86.1	86.1	80.0-120	
Cadmium	100	90.1	90.1	80.0-120	

L1348343-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1348343-01 05/09/21 18:32 • (MS) R3652184-5 05/09/21 18:42 • (MSD) R3652184-6 05/09/21 18:45

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Arsenic	113	3.91	96.9	104	82.3	89.0	5	75.0-125			7.42	20
Cadmium	113	ND	102	114	90.6	101	5	75.0-125			10.9	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3651473-3 05/06/21 21:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon disulfide	U		0.000700	0.0125
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3651473-3 05/06/21 21:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Isopropylbenzene	U		0.000425	0.00250
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.0897	U	0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	103			75.0-131
(S) 4-Bromofluorobenzene	101			67.0-138
(S) 1,2-Dichloroethane-d4	96.8			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3651473-1 05/06/21 19:49 • (LCSD) R3651473-2 05/06/21 20:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.681	0.615	109	98.4	10.0-160			10.2	31
Acrylonitrile	0.625	0.602	0.619	96.3	99.0	45.0-153			2.78	22
Benzene	0.125	0.127	0.126	102	101	70.0-123			0.791	20
Bromobenzene	0.125	0.124	0.125	99.2	100	73.0-121			0.803	20

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3651473-1 05/06/21 19:49 • (LCSD) R3651473-2 05/06/21 20:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromodichloromethane	0.125	0.120	0.121	96.0	96.8	73.0-121			0.830	20
Bromoform	0.125	0.123	0.123	98.4	98.4	64.0-132			0.000	20
Bromomethane	0.125	0.121	0.118	96.8	94.4	56.0-147			2.51	20
n-Butylbenzene	0.125	0.119	0.120	95.2	96.0	68.0-135			0.837	20
sec-Butylbenzene	0.125	0.123	0.124	98.4	99.2	74.0-130			0.810	20
tert-Butylbenzene	0.125	0.122	0.122	97.6	97.6	75.0-127			0.000	20
Carbon disulfide	0.125	0.114	0.113	91.2	90.4	56.0-133			0.881	20
Carbon tetrachloride	0.125	0.122	0.125	97.6	100	66.0-128			2.43	20
Chlorobenzene	0.125	0.118	0.119	94.4	95.2	76.0-128			0.844	20
Chlorodibromomethane	0.125	0.130	0.127	104	102	74.0-127			2.33	20
Chloroethane	0.125	0.110	0.109	88.0	87.2	61.0-134			0.913	20
Chloroform	0.125	0.121	0.118	96.8	94.4	72.0-123			2.51	20
Chloromethane	0.125	0.116	0.121	92.8	96.8	51.0-138			4.22	20
2-Chlorotoluene	0.125	0.124	0.130	99.2	104	75.0-124			4.72	20
4-Chlorotoluene	0.125	0.120	0.121	96.0	96.8	75.0-124			0.830	20
1,2-Dibromo-3-Chloropropane	0.125	0.109	0.107	87.2	85.6	59.0-130			1.85	20
1,2-Dibromoethane	0.125	0.122	0.120	97.6	96.0	74.0-128			1.65	20
Dibromomethane	0.125	0.134	0.128	107	102	75.0-122			4.58	20
1,2-Dichlorobenzene	0.125	0.126	0.126	101	101	76.0-124			0.000	20
1,3-Dichlorobenzene	0.125	0.123	0.122	98.4	97.6	76.0-125			0.816	20
1,4-Dichlorobenzene	0.125	0.122	0.121	97.6	96.8	77.0-121			0.823	20
Dichlorodifluoromethane	0.125	0.119	0.118	95.2	94.4	43.0-156			0.844	20
1,1-Dichloroethane	0.125	0.125	0.121	100	96.8	70.0-127			3.25	20
1,2-Dichloroethane	0.125	0.124	0.124	99.2	99.2	65.0-131			0.000	20
1,1-Dichloroethene	0.125	0.121	0.120	96.8	96.0	65.0-131			0.830	20
cis-1,2-Dichloroethene	0.125	0.126	0.120	101	96.0	73.0-125			4.88	20
trans-1,2-Dichloroethene	0.125	0.120	0.114	96.0	91.2	71.0-125			5.13	20
1,2-Dichloropropane	0.125	0.129	0.123	103	98.4	74.0-125			4.76	20
1,1-Dichloropropene	0.125	0.117	0.116	93.6	92.8	73.0-125			0.858	20
1,3-Dichloropropane	0.125	0.127	0.127	102	102	80.0-125			0.000	20
cis-1,3-Dichloropropene	0.125	0.122	0.121	97.6	96.8	76.0-127			0.823	20
trans-1,3-Dichloropropene	0.125	0.122	0.121	97.6	96.8	73.0-127			0.823	20
2,2-Dichloropropane	0.125	0.133	0.129	106	103	59.0-135			3.05	20
Di-isopropyl ether	0.125	0.125	0.124	100	99.2	60.0-136			0.803	20
Ethylbenzene	0.125	0.123	0.121	98.4	96.8	74.0-126			1.64	20
Hexachloro-1,3-butadiene	0.125	0.133	0.128	106	102	57.0-150			3.83	20
Isopropylbenzene	0.125	0.117	0.119	93.6	95.2	72.0-127			1.69	20
p-Isopropyltoluene	0.125	0.122	0.119	97.6	95.2	72.0-133			2.49	20
2-Butanone (MEK)	0.625	0.635	0.643	102	103	30.0-160			1.25	24
Methylene Chloride	0.125	0.131	0.124	105	99.2	68.0-123			5.49	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3651473-1 05/06/21 19:49 • (LCSD) R3651473-2 05/06/21 20:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.625	0.644	0.638	103	102	56.0-143			0.936	20
Methyl tert-butyl ether	0.125	0.120	0.125	96.0	100	66.0-132			4.08	20
Naphthalene	0.125	0.114	0.116	91.2	92.8	59.0-130			1.74	20
n-Propylbenzene	0.125	0.118	0.117	94.4	93.6	74.0-126			0.851	20
Styrene	0.125	0.120	0.118	96.0	94.4	72.0-127			1.68	20
1,1,1,2-Tetrachloroethane	0.125	0.132	0.128	106	102	74.0-129			3.08	20
1,1,2,2-Tetrachloroethane	0.125	0.119	0.119	95.2	95.2	68.0-128			0.000	20
Tetrachloroethene	0.125	0.120	0.118	96.0	94.4	70.0-136			1.68	20
Toluene	0.125	0.123	0.121	98.4	96.8	75.0-121			1.64	20
1,1,2-Trichlorotrifluoroethane	0.125	0.133	0.129	106	103	61.0-139			3.05	20
1,2,3-Trichlorobenzene	0.125	0.114	0.115	91.2	92.0	59.0-139			0.873	20
1,2,4-Trichlorobenzene	0.125	0.123	0.124	98.4	99.2	62.0-137			0.810	20
1,1,1-Trichloroethane	0.125	0.117	0.116	93.6	92.8	69.0-126			0.858	20
1,1,2-Trichloroethane	0.125	0.125	0.127	100	102	78.0-123			1.59	20
Trichloroethene	0.125	0.122	0.118	97.6	94.4	76.0-126			3.33	20
Trichlorofluoromethane	0.125	0.123	0.121	98.4	96.8	61.0-142			1.64	20
1,2,3-Trichloropropane	0.125	0.129	0.125	103	100	67.0-129			3.15	20
1,2,3-Trimethylbenzene	0.125	0.117	0.117	93.6	93.6	74.0-124			0.000	20
1,2,4-Trimethylbenzene	0.125	0.119	0.120	95.2	96.0	70.0-126			0.837	20
1,3,5-Trimethylbenzene	0.125	0.120	0.125	96.0	100	73.0-127			4.08	20
Vinyl chloride	0.125	0.117	0.113	93.6	90.4	63.0-134			3.48	20
Xylenes, Total	0.375	0.356	0.355	94.9	94.7	72.0-127			0.281	20
(S) Toluene-d8				102	99.7	75.0-131				
(S) 4-Bromofluorobenzene				98.8	99.7	67.0-138				
(S) 1,2-Dichloroethane-d4				109	106	70.0-130				

L1347647-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-02 05/07/21 03:20 • (MS) R3651473-4 05/07/21 03:57 • (MSD) R3651473-5 05/07/21 04:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acetone	4.55	ND	4.91	4.06	108	89.2	8	10.0-160			19.0	40
Acrylonitrile	4.55	ND	4.86	3.51	107	77.1	8	10.0-160			32.3	40
Benzene	0.910	ND	0.529	0.607	58.1	66.7	8	10.0-149			13.7	37
Bromobenzene	0.910	ND	0.651	0.685	71.5	75.3	8	10.0-156			5.09	38
Bromodichloromethane	0.910	ND	0.610	0.642	67.0	70.5	8	10.0-143			5.11	37
Bromoform	0.910	ND	0.821	0.758	90.2	83.3	8	10.0-146			7.98	36
Bromomethane	0.910	ND	0.394	0.485	43.3	53.3	8	10.0-149			20.7	38
n-Butylbenzene	0.910	ND	0.609	0.697	66.9	76.6	8	10.0-160			13.5	40

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1347647-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-02 05/07/21 03:20 • (MS) R3651473-4 05/07/21 03:57 • (MSD) R3651473-5 05/07/21 04:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
sec-Butylbenzene	0.910	ND	0.636	0.736	59.9	70.9	8	10.0-159			14.6	39
tert-Butylbenzene	0.910	ND	0.536	0.633	58.9	69.6	8	10.0-156			16.6	39
Carbon disulfide	0.910	ND	0.370	0.461	40.7	50.7	8	10.0-145			21.9	39
Carbon tetrachloride	0.910	ND	0.480	0.612	52.7	67.3	8	10.0-145			24.2	37
Chlorobenzene	0.910	ND	0.563	0.627	61.9	68.9	8	10.0-152			10.8	39
Chlorodibromomethane	0.910	ND	0.774	0.754	85.1	82.9	8	10.0-146			2.62	37
Chloroethane	0.910	ND	0.336	0.436	36.9	47.9	8	10.0-146			25.9	40
Chloroform	0.910	ND	0.549	0.602	60.3	66.2	8	10.0-146			9.21	37
Chloromethane	0.910	ND	0.421	0.500	46.3	54.9	8	10.0-159			17.2	37
2-Chlorotoluene	0.910	ND	0.549	0.645	60.3	70.9	8	10.0-159			16.1	38
4-Chlorotoluene	0.910	ND	0.528	0.510	58.0	56.0	8	10.0-155			3.47	39
1,2-Dibromo-3-Chloropropane	0.910	ND	0.945	0.818	104	89.9	8	10.0-151			14.4	39
1,2-Dibromoethane	0.910	ND	0.799	0.772	87.8	84.8	8	10.0-148			3.44	34
Dibromomethane	0.910	ND	0.763	0.738	83.8	81.1	8	10.0-147			3.33	35
1,2-Dichlorobenzene	0.910	ND	0.668	0.676	73.4	74.3	8	10.0-155			1.19	37
1,3-Dichlorobenzene	0.910	ND	0.615	0.637	67.6	70.0	8	10.0-153			3.51	38
1,4-Dichlorobenzene	0.910	ND	0.614	0.629	67.5	69.1	8	10.0-151			2.41	38
Dichlorodifluoromethane	0.910	ND	0.529	0.624	58.1	68.6	8	10.0-160			16.5	35
1,1-Dichloroethane	0.910	ND	0.518	0.600	56.9	65.9	8	10.0-147			14.7	37
1,2-Dichloroethane	0.910	ND	0.676	0.660	74.3	72.5	8	10.0-148			2.40	35
1,1-Dichloroethene	0.910	ND	0.430	0.542	47.3	59.6	8	10.0-155			23.0	37
cis-1,2-Dichloroethene	0.910	ND	0.548	0.602	60.2	66.2	8	10.0-149			9.39	37
trans-1,2-Dichloroethene	0.910	ND	0.460	0.536	50.5	58.9	8	10.0-150			15.3	37
1,2-Dichloropropane	0.910	ND	0.647	0.658	71.1	72.3	8	10.0-148			1.69	37
1,1-Dichloropropene	0.910	ND	0.444	0.576	48.8	63.3	8	10.0-153			25.9	35
1,3-Dichloropropane	0.910	ND	0.760	0.736	83.5	80.9	8	10.0-154			3.21	35
cis-1,3-Dichloropropene	0.910	ND	0.664	0.674	73.0	74.1	8	10.0-151			1.49	37
trans-1,3-Dichloropropene	0.910	ND	0.718	0.716	78.9	78.7	8	10.0-148			0.279	37
2,2-Dichloropropane	0.910	ND	0.427	0.525	46.9	57.7	8	10.0-138			20.6	36
Di-isopropyl ether	0.910	ND	0.590	0.608	64.8	66.8	8	10.0-147			3.01	36
Ethylbenzene	0.910	ND	0.519	0.615	57.0	67.6	8	10.0-160			16.9	38
Hexachloro-1,3-butadiene	0.910	ND	0.932	1.14	102	125	8	10.0-160			20.1	40
Isopropylbenzene	0.910	ND	0.521	0.607	57.3	66.7	8	10.0-155			15.2	38
p-Isopropyltoluene	0.910	ND	0.580	0.686	61.1	72.8	8	10.0-160			16.7	40
2-Butanone (MEK)	4.55	ND	5.52	4.26	121	93.6	8	10.0-160			25.8	40
Methylene Chloride	0.910	ND	0.552	0.611	60.7	67.1	8	10.0-141			10.1	37
4-Methyl-2-pentanone (MIBK)	4.55	ND	4.78	4.18	105	91.9	8	10.0-160			13.4	35
Methyl tert-butyl ether	0.910	ND	0.750	0.717	82.4	78.8	8	11.0-147			4.50	35
Naphthalene	0.910	ND	0.932	0.867	102	95.3	8	10.0-160			7.23	36
n-Propylbenzene	0.910	ND	0.501	0.599	55.1	65.8	8	10.0-158			17.8	38

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1347647-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-02 05/07/21 03:20 • (MS) R3651473-4 05/07/21 03:57 • (MSD) R3651473-5 05/07/21 04:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Styrene	0.910	ND	0.596	0.632	65.5	69.5	8	10.0-160			5.86	40
1,1,1,2-Tetrachloroethane	0.910	ND	0.606	0.702	66.6	77.1	8	10.0-149			14.7	39
1,1,2,2-Tetrachloroethane	0.910	ND	1.93	1.79	212	197	8	10.0-160	J5	J5	7.53	35
Tetrachloroethene	0.910	ND	0.476	0.589	52.3	64.7	8	10.0-156			21.2	39
Toluene	0.910	ND	0.520	0.600	55.9	64.7	8	10.0-156			14.3	38
1,1,2-Trichlorotrifluoroethane	0.910	ND	0.530	0.682	58.2	74.9	8	10.0-160			25.1	36
1,2,3-Trichlorobenzene	0.910	ND	0.700	0.588	76.9	64.6	8	10.0-160			17.4	40
1,2,4-Trichlorobenzene	0.910	ND	0.724	0.749	79.6	82.3	8	10.0-160			3.39	40
1,1,1-Trichloroethane	0.910	ND	0.447	0.565	49.1	62.1	8	10.0-144			23.3	35
1,1,2-Trichloroethane	0.910	ND	0.849	0.785	93.3	86.3	8	10.0-160			7.83	35
Trichloroethene	0.910	ND	0.513	0.585	56.4	64.3	8	10.0-156			13.1	38
Trichlorofluoromethane	0.910	ND	0.424	0.515	46.6	56.6	8	10.0-160			19.4	40
1,2,3-Trichloropropane	0.910	ND	0.429	0.427	47.1	46.9	8	10.0-156			0.467	35
1,2,3-Trimethylbenzene	0.910	ND	0.577	0.629	63.4	69.1	8	10.0-160			8.62	36
1,2,4-Trimethylbenzene	0.910	ND	0.553	0.619	60.8	68.0	8	10.0-160			11.3	36
1,3,5-Trimethylbenzene	0.910	ND	0.537	0.630	59.0	69.2	8	10.0-160			15.9	38
Vinyl chloride	0.910	ND	0.414	0.548	45.5	60.2	8	10.0-160			27.9	37
Xylenes, Total	2.73	ND	1.59	1.79	57.8	65.1	8	10.0-160			11.8	38
(S) Toluene-d8					101	98.6		75.0-131				
(S) 4-Bromofluorobenzene					106	106		67.0-138				
(S) 1,2-Dichloroethane-d4					102	99.5		70.0-130				

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



WG1666732

QUALITY CONTROL SUMMARY

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

L1347640-03,04,05,06,07,08,09,10,11

Method Blank (MB)

(MB) R3652071-1 05/08/21 15:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	78.2			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3652071-2 05/08/21 15:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	49.1	98.2	50.0-150	
(S) o-Terphenyl			86.5	18.0-148	

L1347619-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347619-05 05/08/21 16:55 • (MS) R3652071-3 05/08/21 17:08 • (MSD) R3652071-4 05/08/21 17:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	53.5	ND	50.6	71.7	88.2	123	1	50.0-150		J3	34.5	20
(S) o-Terphenyl					66.9	67.1		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3652913-2 05/11/21 11:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	90.0	⬇	83.3	250
(S) o-Terphenyl	78.5			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3652913-3 05/11/21 11:41 • (LCSD) R3652913-1 05/11/21 05:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	970	1000	64.7	66.7	50.0-150			3.05	20
(S) o-Terphenyl				123	113	52.0-156				

1  
Cp

2  
Tc

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Ss

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Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

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Sc

Method Blank (MB)

(MB) R3652550-1 05/08/21 15:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
PCB 1260	U		0.173	0.500
PCB 1016	U		0.270	0.500
PCB 1221	U		0.270	0.500
PCB 1232	U		0.270	0.500
PCB 1242	U		0.270	0.500
PCB 1248	U		0.173	0.500
PCB 1254	U		0.173	0.500
(S) Decachlorobiphenyl	71.1			10.0-128
(S) Tetrachloro-m-xylene	95.0			10.0-127

Laboratory Control Sample (LCS)

(LCS) R3652550-2 05/08/21 15:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	2.50	2.24	89.6	42.0-131	P
PCB 1016	2.50	2.78	111	36.0-135	
(S) Decachlorobiphenyl			63.6	10.0-128	
(S) Tetrachloro-m-xylene			93.3	10.0-127	

L1346465-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346465-01 05/08/21 16:11 • (MS) R3652550-3 05/08/21 16:21 • (MSD) R3652550-4 05/08/21 16:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1260	2.50	ND	1.39	1.97	55.6	78.8	1	20.0-142		J3	34.5	27
PCB 1016	2.50	ND	2.25	2.68	90.0	107	1	11.0-160	P	P	17.4	38
(S) Decachlorobiphenyl					42.4	67.3		10.0-128				
(S) Tetrachloro-m-xylene					78.5	93.8		10.0-127				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3653083-1 05/11/21 02:14

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
PCB 1016	U		0.0118	0.0340
PCB 1221	U		0.0118	0.0340
PCB 1232	U		0.0118	0.0340
PCB 1242	U		0.0118	0.0340
PCB 1248	U		0.00738	0.0170
PCB 1254	U		0.00738	0.0170
PCB 1260	U		0.00738	0.0170
PCB 1268	U		0.00738	0.0170
(S) Decachlorobiphenyl	65.8			10.0-135
(S) Tetrachloro-m-xylene	64.3			10.0-139

Laboratory Control Sample (LCS)

(LCS) R3653083-2 05/11/21 02:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	0.167	0.166	99.4	37.0-145	
PCB 1016	0.167	0.153	91.6	36.0-141	
(S) Decachlorobiphenyl			78.4	10.0-135	
(S) Tetrachloro-m-xylene			78.7	10.0-139	

L1347593-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347593-07 05/11/21 04:14 • (MS) R3653083-3 05/11/21 04:25 • (MSD) R3653083-4 05/11/21 04:37

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1260	0.178	ND	0.227	0.227	128	128	1	10.0-160	P		0.000	38
PCB 1016	0.178	ND	0.220	0.209	124	117	1	10.0-160			5.46	37
(S) Decachlorobiphenyl					91.3	104		10.0-135				
(S) Tetrachloro-m-xylene					101	102		10.0-139				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3651402-3 05/06/21 08:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	92.0			31.0-160
(S) 2-Fluorobiphenyl	98.5			48.0-148
(S) p-Terphenyl-d14	111			37.0-146

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3651402-1 05/06/21 08:19 • (LCSD) R3651402-2 05/06/21 08:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.94	1.77	97.0	88.5	67.0-150			9.16	20
Acenaphthene	2.00	1.95	1.83	97.5	91.5	65.0-138			6.35	20
Acenaphthylene	2.00	2.02	1.88	101	94.0	66.0-140			7.18	20
Benzo(a)anthracene	2.00	1.81	1.48	90.5	74.0	61.0-140		J3	20.1	20
Benzo(a)pyrene	2.00	1.71	1.20	85.5	60.0	60.0-143		J3	35.1	20
Benzo(b)fluoranthene	2.00	1.84	1.45	92.0	72.5	58.0-141		J3	23.7	20
Benzo(g,h,i)perylene	2.00	1.72	1.11	86.0	55.5	52.0-153		J3	43.1	20
Benzo(k)fluoranthene	2.00	1.74	1.20	87.0	60.0	58.0-148		J3	36.7	20
Chrysene	2.00	1.87	1.46	93.5	73.0	64.0-144		J3	24.6	20
Dibenz(a,h)anthracene	2.00	1.65	1.06	82.5	53.0	52.0-155		J3	43.5	20
Fluoranthene	2.00	1.93	1.73	96.5	86.5	69.0-153			10.9	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3651402-1 05/06/21 08:19 • (LCSD) R3651402-2 05/06/21 08:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	1.99	1.86	99.5	93.0	64.0-136			6.75	20
Indeno(1,2,3-cd)pyrene	2.00	1.63	1.08	81.5	54.0	54.0-153		J3	40.6	20
Naphthalene	2.00	1.92	1.80	96.0	90.0	61.0-137			6.45	20
Phenanthrene	2.00	1.99	1.86	99.5	93.0	62.0-137			6.75	20
Pyrene	2.00	2.12	1.86	106	93.0	60.0-142			13.1	20
1-Methylnaphthalene	2.00	1.98	1.84	99.0	92.0	66.0-142			7.33	20
2-Methylnaphthalene	2.00	1.88	1.74	94.0	87.0	62.0-136			7.73	20
2-Chloronaphthalene	2.00	1.97	1.84	98.5	92.0	64.0-140			6.82	20
(S) Nitrobenzene-d5				101	90.5	31.0-160				
(S) 2-Fluorobiphenyl				100	93.5	48.0-148				
(S) p-Terphenyl-d14				106	77.0	37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
P	RPD between the primary and confirmatory analysis exceeded 40%.

# ACCREDITATIONS & LOCATIONS

DRAFT

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Martin S. Burck Associates  
200 N. Wasco Ct., Hood River, OR 97031

Billing Information:

Accounts Payable  
200 N. Wasco Ct.  
Hood River, OR 97031

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace Analytical  
National Center for Testing & Research

12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5858  
Fax: 615-758-5859



Report to:  
Josh Owen

Email To:  
jowen@msbaenvironmental.com

Project  
Description: North Star Casteel

City/State  
Collected: Vancouver, WA

Phone: 541.387.4422  
Fax: 541.387.4813

Client Project #  
North Star

Lab Project #  
MSBAHROR-NSTARCASTEE

Collected by (print):  
Jim White

Site/Facility ID #

P.O. #  
North Star

Collected by (signature):  
[Signature]

Rush? (Lab MUST Be Notified)  
Same Day Five Day  
Next Day 5 Day (Rad Only)  
Two Day 10 Day (Rad Only)  
Three Day

Date Results Needed

No.  
of  
Cntrs

Immediately  
Packed on ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPH-HCID	NWTPH-GX	NWTPH-DX	8260D - VOCs - RDBM List	8270 ESIM - PAHs	PCBs	Total As	Hold	Remarks	Sample # (Lab only)
S29-1	grab	SS	1'	4/30/21	0934	3										-01
S29-1 Dup	grab	SS	1'	4/30/21	0934	3										
S30-0.5	grab	SS	0.5'	4/30/21	1000	3										-02
S31-0	grab	SS	0	4/30/21	1025	3			✓							-03
S32-1.5	grab	SS	1.5'	4/30/21	1233	3			✓							-04
S33-9	grab	SS	9'	4/30/21	1256	3			✓	✓		✓				-05
S34-2	grab	SS	2'	4/30/21	1329	3			✓							-06
S35-0.5	grab	SS	0.5'	4/30/21	1512	4			✓							-07
S36-1	grab	SS	1'	4/30/21	1518	4			✓				✓			-08
S37-1	grab	SS	1'	4/30/21	1524	4			✓				✓			-09

Matrix:  
S - Soil AIR - Air F - Filter  
GW - Groundwater B - Biossay  
WW - Waste Water  
RW - Drinking Water  
OT - Other OT1 = Distilled Water  
OT2 = Lab Provided Water

Remarks:

pH Temp

Flow Other

Samples returned via:  
UPS FedEx Courier

Tracking # 9843 00V7 4120

Relinquished by: (Signature)  
[Signature]

Date: 5/3/21  
Time: 15:30

Received by: (Signature)

Trip Blank Received: Yes / No  
BTL / MeOH  
TBR

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Temp: 21.1 ± 2.0 °C  
Bottles Received: 52

Relinquished by: (Signature)

Date: Time:

Received for lab by: (Signature)  
[Signature]

Date: 05/04/21  
Time: 1200

Hold:

Condition:  
NCP / OK

Sample Receipt Checklist:  
COC Seal Present/Intact: ☒ Y ☐ N  
COC Signed/Accurate: ☒ Y ☐ N  
Bottles arrive intact: ☒ Y ☐ N  
Correct bottles used: ☒ Y ☐ N  
Sufficient volume sent: ☒ Y ☐ N  
If Applicable  
VOA Zero Headspace: ☒ Y ☐ N  
Preservation Correct/Checked: ☒ Y ☐ N

If preservation required by Login: Date/Time

**Martin S. Burck Associates**  
200 N. Wasco Ct., Hood River, OR 97031

Condition:  
NCF / OK



Condition:  
NCF / OK

Condition:  
NCF / OK

L1347640 MSBAHROR NCF HM


R5

Time estimate: 0h

Time spent: 0h

Members

 Hailey Melson (responsible)

 Brian Ford

- ☐ Parameter(s) past holding time
- ☐ Temperature not in range
- ☐ Improper container type
- ☐ pH not in range
- ☐ Insufficient sample volume
- ☐ Sample is biphasic
- ☐ Vials received with headspace
- ☒ Broken container
- ☐ Sufficient sample remains
- ☐ If broken container: Insufficient packing material around container
- ☐ If broken container: Insufficient packing material inside cooler
- ☒ If broken container: Improper handling by carrier: \_FedEx\_\_\_\_\_
- ☐ If broken container: Sample was frozen
- ☐ If broken container: Container lid not intact
- ☐ Client informed by Call
- ☒ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time: \_\_\_\_\_
- ☒ PM initials: \_\_\_\_\_bjf\_\_\_\_\_
- ☐ Client Contact: \_\_\_\_\_

Comments

Hailey Melson

5 May 2021 2:52 PM

Sample S29-1 Dup 8oz jar was received broken. Sample was transferred into a new jar but there may be broken glass in the jar.

Hailey Melson

5 May 2021 2:53 PM

Also i apologize the Kanban will not let me add the COC.

Brian Ford

5 May 2021 2:58 PM

proceed with S29-1 Dup analysis from salvaged sample.  
also, please log the trip blank off hold for analysis requested on the COC.

# DRAFT

---

10) Sample Date 4/30/21 (#L1347655)



**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1347655  
Samples Received: 05/04/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

<b>Cp: Cover Page</b>	<b>1</b>
<b>Tc: Table of Contents</b>	<b>2</b>
<b>Ss: Sample Summary</b>	<b>3</b>
<b>Cn: Case Narrative</b>	<b>5</b>
<b>Sr: Sample Results</b>	<b>6</b>
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SP1-B L1347655-02	9
SP1-C L1347655-03	12
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<b>Qc: Quality Control Summary</b>	<b>23</b>
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Volatile Organic Compounds (GC/MS) by Method 8260D	28
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	38
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<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/30/21 11:55

Received date/time  
05/04/21 12:00

## SP1-A L1347655-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665918	1	05/08/21 11:04	05/08/21 11:21	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1666350	1	05/07/21 12:54	05/08/21 01:52	SD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	10	05/08/21 16:00	05/10/21 00:24	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 21:59	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	04/30/21 11:55	05/09/21 09:39	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1666254	1	04/30/21 11:55	05/07/21 11:55	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/09/21 16:10	CAG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1667401	1	05/11/21 09:04	05/13/21 06:06	JNJ	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667777	1	05/11/21 08:55	05/11/21 16:33	LEA	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 12:05

Received date/time  
05/04/21 12:00

## SP1-B L1347655-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665918	1	05/08/21 11:04	05/08/21 11:21	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1666350	1	05/07/21 12:54	05/08/21 01:54	SD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 22:02	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/10/21 08:13	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	04/30/21 12:05	05/09/21 10:01	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1666254	1	04/30/21 12:05	05/07/21 12:14	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/09/21 15:31	CAG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1668054	1	05/11/21 08:23	05/11/21 22:35	JNJ	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1668054	1	05/11/21 08:23	05/13/21 21:22	MTJ	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667777	1	05/11/21 08:55	05/11/21 16:53	LEA	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 12:17

Received date/time  
05/04/21 12:00

## SP1-C L1347655-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665918	1	05/08/21 11:04	05/08/21 11:21	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1666350	1	05/07/21 12:54	05/08/21 01:56	SD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 22:06	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	50	05/08/21 16:00	05/10/21 08:17	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	04/30/21 12:17	05/09/21 10:23	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1666254	1	04/30/21 12:17	05/07/21 12:32	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/09/21 15:18	CAG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1668054	1	05/11/21 08:23	05/11/21 22:45	JNJ	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667777	1	05/11/21 08:55	05/11/21 17:12	LEA	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
04/30/21 00:00

Received date/time  
05/04/21 12:00

## SP2-ABC L1347655-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665918	1	05/08/21 11:04	05/08/21 11:21	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1666350	1	05/07/21 12:54	05/08/21 01:58	SD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	20	05/08/21 16:00	05/10/21 00:27	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 22:09	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	04/30/21 00:00	05/09/21 10:45	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1666254	1	04/30/21 00:00	05/07/21 12:51	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	20	05/08/21 06:40	05/08/21 20:17	CAG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1668054	1	05/11/21 08:23	05/11/21 22:55	JNJ	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1668054	1	05/11/21 08:23	05/13/21 21:33	MTJ	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667777	1	05/11/21 08:55	05/11/21 22:06	LEA	Mt. Juliet, TN

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1347655

DATE/TIME:

05/17/21 09:39

PAGE:

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# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
04/30/21 00:00

Received date/time  
05/04/21 12:00

## SP3-ABC L1347655-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665923	1	05/08/21 06:37	05/08/21 06:44	MT	Mt. Juliet, TN
Mercury by Method 7471B	WG1666350	1	05/07/21 12:54	05/08/21 01:59	SD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	10	05/08/21 16:00	05/10/21 08:20	TM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 22:12	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	04/30/21 00:00	05/09/21 11:07	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1666254	1	04/30/21 00:00	05/07/21 13:10	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 19:14	CAG	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1668054	1	05/11/21 08:23	05/13/21 21:43	CLG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667777	1	05/11/21 08:55	05/11/21 22:25	LEA	Mt. Juliet, TN

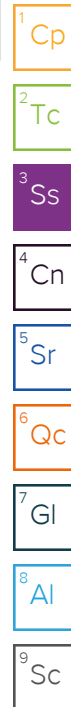
Collected by  
Jon White

Collected date/time  
04/30/21 00:00

Received date/time  
05/04/21 12:00

## TRIP BLANK L1347655-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1667276	1	05/09/21 17:10	05/09/21 17:10	JHH	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.7		1	05/08/2021 11:21	<a href="#">WG1665918</a>

## Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	0.131		0.0418	1	05/08/2021 01:52	<a href="#">WG1666350</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Arsenic	6.21		1.04	5	05/09/2021 21:59	<a href="#">WG1666839</a>
Barium	78.8		5.22	10	05/10/2021 00:24	<a href="#">WG1666839</a>
Cadmium	ND		1.04	5	05/09/2021 21:59	<a href="#">WG1666839</a>
Chromium	25.3		5.22	5	05/09/2021 21:59	<a href="#">WG1666839</a>
Lead	100		4.18	10	05/10/2021 00:24	<a href="#">WG1666839</a>
Selenium	ND		2.61	5	05/09/2021 21:59	<a href="#">WG1666839</a>
Silver	ND		0.522	5	05/09/2021 21:59	<a href="#">WG1666839</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.76	25	05/09/2021 09:39	<a href="#">WG1666156</a>
(S) a,a,a-Trifluorotoluene(FID)	95.8		77.0-120		05/09/2021 09:39	<a href="#">WG1666156</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND	<a href="#">C3</a>	0.0552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Acrylonitrile	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Benzene	ND		0.00110	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Bromobenzene	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Bromodichloromethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Bromoform	ND		0.0276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Bromomethane	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
n-Butylbenzene	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
sec-Butylbenzene	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
tert-Butylbenzene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Carbon disulfide	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Carbon tetrachloride	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Chlorobenzene	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Chlorodibromomethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Chloroethane	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Chloroform	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Chloromethane	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
2-Chlorotoluene	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
4-Chlorotoluene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2-Dibromo-3-Chloropropane	ND		0.0276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2-Dibromoethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Dibromomethane	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2-Dichlorobenzene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,3-Dichlorobenzene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,4-Dichlorobenzene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Dichlorodifluoromethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1-Dichloroethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1-Dichloroethene	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
cis-1,2-Dichloroethene	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
trans-1,2-Dichloroethene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2-Dichloropropane	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1-Dichloropropene	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,3-Dichloropropane	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
cis-1,3-Dichloropropene	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
trans-1,3-Dichloropropene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
2,2-Dichloropropane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Di-isopropyl ether	ND		0.00110	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Ethylbenzene	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Hexachloro-1,3-butadiene	ND		0.0276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Isopropylbenzene	0.00384		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
p-Isopropyltoluene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
2-Butanone (MEK)	ND		0.110	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Methylene Chloride	ND		0.0276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
4-Methyl-2-pentanone (MIBK)	ND		0.0276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Methyl tert-butyl ether	ND		0.00110	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Naphthalene	0.0468		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
n-Propylbenzene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Styrene	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1,1,2-Tetrachloroethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1,2,2-Tetrachloroethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1,2-Trichlorotrifluoroethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Tetrachloroethene	0.00899		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Toluene	0.0350		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2,3-Trichlorobenzene	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2,4-Trichlorobenzene	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1,1-Trichloroethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,1,2-Trichloroethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Trichloroethene	ND		0.00110	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Trichlorofluoromethane	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2,3-Trichloropropane	ND		0.0138	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2,4-Trimethylbenzene	0.00657		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,2,3-Trimethylbenzene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
1,3,5-Trimethylbenzene	ND		0.00552	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Vinyl chloride	ND		0.00276	1	05/07/2021 11:55	<a href="#">WG1666254</a>
Xylenes, Total	0.00782		0.00717	1	05/07/2021 11:55	<a href="#">WG1666254</a>
(S) Toluene-d8	101		75.0-131		05/07/2021 11:55	<a href="#">WG1666254</a>
(S) 4-Bromofluorobenzene	99.2		67.0-138		05/07/2021 11:55	<a href="#">WG1666254</a>
(S) 1,2-Dichloroethane-d4	94.6		70.0-130		05/07/2021 11:55	<a href="#">WG1666254</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	42.2		4.18	1	05/09/2021 16:10	<a href="#">WG1666732</a>
Residual Range Organics (RRO)	76.4		10.4	1	05/09/2021 16:10	<a href="#">WG1666732</a>
(S) o-Terphenyl	46.9		18.0-148		05/09/2021 16:10	<a href="#">WG1666732</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0355	1	05/13/2021 06:06	<a href="#">WG1667401</a>
PCB 1221	ND		0.0355	1	05/13/2021 06:06	<a href="#">WG1667401</a>
PCB 1232	ND		0.0355	1	05/13/2021 06:06	<a href="#">WG1667401</a>
PCB 1242	ND		0.0355	1	05/13/2021 06:06	<a href="#">WG1667401</a>
PCB 1248	ND		0.0178	1	05/13/2021 06:06	<a href="#">WG1667401</a>
PCB 1254	ND		0.0178	1	05/13/2021 06:06	<a href="#">WG1667401</a>
PCB 1260	0.286		0.0178	1	05/13/2021 06:06	<a href="#">WG1667401</a>
PCB 1268	ND		0.0178	1	05/13/2021 06:06	<a href="#">WG1667401</a>
(S) Decachlorobiphenyl	85.6		10.0-135		05/13/2021 06:06	<a href="#">WG1667401</a>
(S) Tetrachloro-m-xylene	81.6		10.0-139		05/13/2021 06:06	<a href="#">WG1667401</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Acenaphthene	ND		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Acenaphthylene	ND		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Benzo(a)anthracene	0.0168		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Benzo(a)pyrene	0.0194		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Benzo(b)fluoranthene	0.0369		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Benzo(g,h,i)perylene	0.0281		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Benzo(k)fluoranthene	0.0124		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Chrysene	0.0229		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Dibenz(a,h)anthracene	ND		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Fluoranthene	0.0380		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Fluorene	ND		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Indeno(1,2,3-cd)pyrene	0.0250		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Naphthalene	ND		0.0209	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Phenanthrene	0.0221		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
Pyrene	0.0373		0.00627	1	05/11/2021 16:33	<a href="#">WG1667777</a>
1-Methylnaphthalene	ND		0.0209	1	05/11/2021 16:33	<a href="#">WG1667777</a>
2-Methylnaphthalene	ND		0.0209	1	05/11/2021 16:33	<a href="#">WG1667777</a>
2-Chloronaphthalene	ND		0.0209	1	05/11/2021 16:33	<a href="#">WG1667777</a>
(S) Nitrobenzene-d5	65.7		14.0-149		05/11/2021 16:33	<a href="#">WG1667777</a>
(S) 2-Fluorobiphenyl	71.4		34.0-125		05/11/2021 16:33	<a href="#">WG1667777</a>
(S) p-Terphenyl-d14	86.6		23.0-120		05/11/2021 16:33	<a href="#">WG1667777</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.5		1	05/08/2021 11:21	<a href="#">WG1665918</a>

## Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Mercury	ND		0.0419	1	05/08/2021 01:54	<a href="#">WG1666350</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	2.92		1.05	5	05/09/2021 22:02	<a href="#">WG1666839</a>
Barium	25.5		2.62	5	05/10/2021 08:13	<a href="#">WG1666839</a>
Cadmium	ND		1.05	5	05/09/2021 22:02	<a href="#">WG1666839</a>
Chromium	98.0		5.24	5	05/09/2021 22:02	<a href="#">WG1666839</a>
Lead	7.14		2.09	5	05/09/2021 22:02	<a href="#">WG1666839</a>
Selenium	ND		2.62	5	05/09/2021 22:02	<a href="#">WG1666839</a>
Silver	ND		0.524	5	05/09/2021 22:02	<a href="#">WG1666839</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		2.75	25	05/09/2021 10:01	<a href="#">WG1666156</a>
(S) a,a,a-Trifluorotoluene(FID)	96.0		77.0-120		05/09/2021 10:01	<a href="#">WG1666156</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Acetone	ND	<a href="#">C3</a>	0.0550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Acrylonitrile	ND		0.0138	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Benzene	0.00190		0.00110	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Bromobenzene	ND		0.0138	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Bromodichloromethane	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Bromoform	ND		0.0275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Bromomethane	ND		0.0138	1	05/07/2021 12:14	<a href="#">WG1666254</a>
n-Butylbenzene	ND		0.0138	1	05/07/2021 12:14	<a href="#">WG1666254</a>
sec-Butylbenzene	ND		0.0138	1	05/07/2021 12:14	<a href="#">WG1666254</a>
tert-Butylbenzene	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Carbon disulfide	ND		0.0138	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Carbon tetrachloride	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Chlorobenzene	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Chlorodibromomethane	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Chloroethane	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Chloroform	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Chloromethane	ND		0.0138	1	05/07/2021 12:14	<a href="#">WG1666254</a>
2-Chlorotoluene	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
4-Chlorotoluene	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
1,2-Dibromo-3-Chloropropane	ND		0.0275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
1,2-Dibromoethane	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Dibromomethane	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
1,2-Dichlorobenzene	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
1,3-Dichlorobenzene	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
1,4-Dichlorobenzene	ND		0.00550	1	05/07/2021 12:14	<a href="#">WG1666254</a>
Dichlorodifluoromethane	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>
1,1-Dichloroethane	ND		0.00275	1	05/07/2021 12:14	<a href="#">WG1666254</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00275	1	05/07/2021 12:14	WG1666254
1,1-Dichloroethene	ND		0.00275	1	05/07/2021 12:14	WG1666254
cis-1,2-Dichloroethene	ND		0.00275	1	05/07/2021 12:14	WG1666254
trans-1,2-Dichloroethene	ND		0.00550	1	05/07/2021 12:14	WG1666254
1,2-Dichloropropane	ND		0.00550	1	05/07/2021 12:14	WG1666254
1,1-Dichloropropene	ND		0.00275	1	05/07/2021 12:14	WG1666254
1,3-Dichloropropane	ND		0.00550	1	05/07/2021 12:14	WG1666254
cis-1,3-Dichloropropene	ND		0.00275	1	05/07/2021 12:14	WG1666254
trans-1,3-Dichloropropene	ND		0.00550	1	05/07/2021 12:14	WG1666254
2,2-Dichloropropane	ND		0.00275	1	05/07/2021 12:14	WG1666254
Di-isopropyl ether	ND		0.00110	1	05/07/2021 12:14	WG1666254
Ethylbenzene	0.00283		0.00275	1	05/07/2021 12:14	WG1666254
Hexachloro-1,3-butadiene	ND		0.0275	1	05/07/2021 12:14	WG1666254
Isopropylbenzene	ND		0.00275	1	05/07/2021 12:14	WG1666254
p-Isopropyltoluene	ND		0.00550	1	05/07/2021 12:14	WG1666254
2-Butanone (MEK)	ND		0.110	1	05/07/2021 12:14	WG1666254
Methylene Chloride	ND		0.0275	1	05/07/2021 12:14	WG1666254
4-Methyl-2-pentanone (MIBK)	ND		0.0275	1	05/07/2021 12:14	WG1666254
Methyl tert-butyl ether	ND		0.00110	1	05/07/2021 12:14	WG1666254
Naphthalene	0.0239		0.0138	1	05/07/2021 12:14	WG1666254
n-Propylbenzene	ND		0.00550	1	05/07/2021 12:14	WG1666254
Styrene	ND		0.0138	1	05/07/2021 12:14	WG1666254
1,1,1,2-Tetrachloroethane	ND		0.00275	1	05/07/2021 12:14	WG1666254
1,1,2,2-Tetrachloroethane	ND		0.00275	1	05/07/2021 12:14	WG1666254
1,1,2-Trichlorotrifluoroethane	ND		0.00275	1	05/07/2021 12:14	WG1666254
Tetrachloroethene	ND		0.00275	1	05/07/2021 12:14	WG1666254
Toluene	0.00931		0.00550	1	05/07/2021 12:14	WG1666254
1,2,3-Trichlorobenzene	ND	C4	0.0138	1	05/07/2021 12:14	WG1666254
1,2,4-Trichlorobenzene	ND		0.0138	1	05/07/2021 12:14	WG1666254
1,1,1-Trichloroethane	ND		0.00275	1	05/07/2021 12:14	WG1666254
1,1,2-Trichloroethane	ND		0.00275	1	05/07/2021 12:14	WG1666254
Trichloroethene	ND		0.00110	1	05/07/2021 12:14	WG1666254
Trichlorofluoromethane	ND		0.00275	1	05/07/2021 12:14	WG1666254
1,2,3-Trichloropropane	ND		0.0138	1	05/07/2021 12:14	WG1666254
1,2,4-Trimethylbenzene	0.0161		0.00550	1	05/07/2021 12:14	WG1666254
1,2,3-Trimethylbenzene	0.00574		0.00550	1	05/07/2021 12:14	WG1666254
1,3,5-Trimethylbenzene	0.00802		0.00550	1	05/07/2021 12:14	WG1666254
Vinyl chloride	ND		0.00275	1	05/07/2021 12:14	WG1666254
Xylenes, Total	0.0437		0.00715	1	05/07/2021 12:14	WG1666254
(S) Toluene-d8	102		75.0-131		05/07/2021 12:14	WG1666254
(S) 4-Bromofluorobenzene	99.4		67.0-138		05/07/2021 12:14	WG1666254
(S) 1,2-Dichloroethane-d4	97.8		70.0-130		05/07/2021 12:14	WG1666254

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	17.4		4.19	1	05/09/2021 15:31	WG1666732
Residual Range Organics (RRO)	63.2		10.5	1	05/09/2021 15:31	WG1666732
(S) o-Terphenyl	55.6		18.0-148		05/09/2021 15:31	WG1666732



## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0356	1	05/11/2021 22:35	<a href="#">WG1668054</a>
PCB 1221	ND		0.0356	1	05/11/2021 22:35	<a href="#">WG1668054</a>
PCB 1232	ND		0.0356	1	05/11/2021 22:35	<a href="#">WG1668054</a>
PCB 1242	ND		0.0356	1	05/11/2021 22:35	<a href="#">WG1668054</a>
PCB 1248	ND		0.0178	1	05/11/2021 22:35	<a href="#">WG1668054</a>
PCB 1254	ND		0.0178	1	05/13/2021 21:22	<a href="#">WG1668054</a>
PCB 1260	ND		0.0178	1	05/11/2021 22:35	<a href="#">WG1668054</a>
PCB 1268	ND		0.0178	1	05/11/2021 22:35	<a href="#">WG1668054</a>
(S) Decachlorobiphenyl	74.3		10.0-135		05/11/2021 22:35	<a href="#">WG1668054</a>
(S) Decachlorobiphenyl	77.9		10.0-135		05/13/2021 21:22	<a href="#">WG1668054</a>
(S) Tetrachloro-m-xylene	77.9		10.0-139		05/13/2021 21:22	<a href="#">WG1668054</a>
(S) Tetrachloro-m-xylene	74.3		10.0-139		05/11/2021 22:35	<a href="#">WG1668054</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Acenaphthene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Acenaphthylene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Benzo(a)anthracene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Benzo(a)pyrene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Benzo(b)fluoranthene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Benzo(g,h,i)perylene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Benzo(k)fluoranthene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Chrysene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Dibenz(a,h)anthracene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Fluoranthene	0.00658		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Fluorene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Indeno(1,2,3-cd)pyrene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Naphthalene	0.0279		0.0209	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Phenanthrene	0.00979		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
Pyrene	ND		0.00628	1	05/11/2021 16:53	<a href="#">WG1667777</a>
1-Methylnaphthalene	ND		0.0209	1	05/11/2021 16:53	<a href="#">WG1667777</a>
2-Methylnaphthalene	ND		0.0209	1	05/11/2021 16:53	<a href="#">WG1667777</a>
2-Chloronaphthalene	ND		0.0209	1	05/11/2021 16:53	<a href="#">WG1667777</a>
(S) Nitrobenzene-d5	60.6		14.0-149		05/11/2021 16:53	<a href="#">WG1667777</a>
(S) 2-Fluorobiphenyl	64.4		34.0-125		05/11/2021 16:53	<a href="#">WG1667777</a>
(S) p-Terphenyl-d14	76.8		23.0-120		05/11/2021 16:53	<a href="#">WG1667777</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.3		1	05/08/2021 11:21	<a href="#">WG1665918</a>

## Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Mercury	ND		0.0480	1	05/08/2021 01:56	<a href="#">WG1666350</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	3.20		1.20	5	05/09/2021 22:06	<a href="#">WG1666839</a>
Barium	540		30.0	50	05/10/2021 08:17	<a href="#">WG1666839</a>
Cadmium	ND		1.20	5	05/09/2021 22:06	<a href="#">WG1666839</a>
Chromium	17.6		6.00	5	05/09/2021 22:06	<a href="#">WG1666839</a>
Lead	16.0		2.40	5	05/09/2021 22:06	<a href="#">WG1666839</a>
Selenium	ND		3.00	5	05/09/2021 22:06	<a href="#">WG1666839</a>
Silver	ND		0.600	5	05/09/2021 22:06	<a href="#">WG1666839</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		3.59	25	05/09/2021 10:23	<a href="#">WG1666156</a>
(S) a,a,a-Trifluorotoluene(FID)	95.9		77.0-120		05/09/2021 10:23	<a href="#">WG1666156</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Acetone	ND	<a href="#">C3</a>	0.0719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Acrylonitrile	ND		0.0180	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Benzene	ND		0.00144	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Bromobenzene	ND		0.0180	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Bromodichloromethane	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Bromoform	ND		0.0359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Bromomethane	ND		0.0180	1	05/07/2021 12:32	<a href="#">WG1666254</a>
n-Butylbenzene	ND		0.0180	1	05/07/2021 12:32	<a href="#">WG1666254</a>
sec-Butylbenzene	ND		0.0180	1	05/07/2021 12:32	<a href="#">WG1666254</a>
tert-Butylbenzene	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Carbon disulfide	ND		0.0180	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Carbon tetrachloride	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Chlorobenzene	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Chlorodibromomethane	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Chloroethane	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Chloroform	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Chloromethane	ND		0.0180	1	05/07/2021 12:32	<a href="#">WG1666254</a>
2-Chlorotoluene	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
4-Chlorotoluene	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
1,2-Dibromo-3-Chloropropane	ND		0.0359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
1,2-Dibromoethane	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Dibromomethane	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
1,2-Dichlorobenzene	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
1,3-Dichlorobenzene	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
1,4-Dichlorobenzene	ND		0.00719	1	05/07/2021 12:32	<a href="#">WG1666254</a>
Dichlorodifluoromethane	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>
1,1-Dichloroethane	ND		0.00359	1	05/07/2021 12:32	<a href="#">WG1666254</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00359	1	05/07/2021 12:32	WG1666254
1,1-Dichloroethene	ND		0.00359	1	05/07/2021 12:32	WG1666254
cis-1,2-Dichloroethene	ND		0.00359	1	05/07/2021 12:32	WG1666254
trans-1,2-Dichloroethene	ND		0.00719	1	05/07/2021 12:32	WG1666254
1,2-Dichloropropane	ND		0.00719	1	05/07/2021 12:32	WG1666254
1,1-Dichloropropene	ND		0.00359	1	05/07/2021 12:32	WG1666254
1,3-Dichloropropane	ND		0.00719	1	05/07/2021 12:32	WG1666254
cis-1,3-Dichloropropene	ND		0.00359	1	05/07/2021 12:32	WG1666254
trans-1,3-Dichloropropene	ND		0.00719	1	05/07/2021 12:32	WG1666254
2,2-Dichloropropane	ND		0.00359	1	05/07/2021 12:32	WG1666254
Di-isopropyl ether	ND		0.00144	1	05/07/2021 12:32	WG1666254
Ethylbenzene	ND		0.00359	1	05/07/2021 12:32	WG1666254
Hexachloro-1,3-butadiene	ND		0.0359	1	05/07/2021 12:32	WG1666254
Isopropylbenzene	ND		0.00359	1	05/07/2021 12:32	WG1666254
p-Isopropyltoluene	ND		0.00719	1	05/07/2021 12:32	WG1666254
2-Butanone (MEK)	ND		0.144	1	05/07/2021 12:32	WG1666254
Methylene Chloride	ND		0.0359	1	05/07/2021 12:32	WG1666254
4-Methyl-2-pentanone (MIBK)	ND		0.0359	1	05/07/2021 12:32	WG1666254
Methyl tert-butyl ether	ND		0.00144	1	05/07/2021 12:32	WG1666254
Naphthalene	0.0436		0.0180	1	05/07/2021 12:32	WG1666254
n-Propylbenzene	ND		0.00719	1	05/07/2021 12:32	WG1666254
Styrene	ND		0.0180	1	05/07/2021 12:32	WG1666254
1,1,1,2-Tetrachloroethane	ND		0.00359	1	05/07/2021 12:32	WG1666254
1,1,2,2-Tetrachloroethane	ND		0.00359	1	05/07/2021 12:32	WG1666254
1,1,2-Trichlorotrifluoroethane	ND		0.00359	1	05/07/2021 12:32	WG1666254
Tetrachloroethene	ND		0.00359	1	05/07/2021 12:32	WG1666254
Toluene	ND		0.00719	1	05/07/2021 12:32	WG1666254
1,2,3-Trichlorobenzene	ND	C4	0.0180	1	05/07/2021 12:32	WG1666254
1,2,4-Trichlorobenzene	ND		0.0180	1	05/07/2021 12:32	WG1666254
1,1,1-Trichloroethane	ND		0.00359	1	05/07/2021 12:32	WG1666254
1,1,2-Trichloroethane	ND		0.00359	1	05/07/2021 12:32	WG1666254
Trichloroethene	ND		0.00144	1	05/07/2021 12:32	WG1666254
Trichlorofluoromethane	ND		0.00359	1	05/07/2021 12:32	WG1666254
1,2,3-Trichloropropane	ND		0.0180	1	05/07/2021 12:32	WG1666254
1,2,4-Trimethylbenzene	ND		0.00719	1	05/07/2021 12:32	WG1666254
1,2,3-Trimethylbenzene	ND		0.00719	1	05/07/2021 12:32	WG1666254
1,3,5-Trimethylbenzene	ND		0.00719	1	05/07/2021 12:32	WG1666254
Vinyl chloride	ND		0.00359	1	05/07/2021 12:32	WG1666254
Xylenes, Total	ND		0.00934	1	05/07/2021 12:32	WG1666254
(S) Toluene-d8	102		75.0-131		05/07/2021 12:32	WG1666254
(S) 4-Bromofluorobenzene	102		67.0-138		05/07/2021 12:32	WG1666254
(S) 1,2-Dichloroethane-d4	94.9		70.0-130		05/07/2021 12:32	WG1666254

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	9.38		4.80	1	05/09/2021 15:18	WG1666732
Residual Range Organics (RRO)	27.5		12.0	1	05/09/2021 15:18	WG1666732
(S) o-Terphenyl	78.7		18.0-148		05/09/2021 15:18	WG1666732

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0408	1	05/11/2021 22:45	<a href="#">WG1668054</a>
PCB 1221	ND		0.0408	1	05/11/2021 22:45	<a href="#">WG1668054</a>
PCB 1232	ND		0.0408	1	05/11/2021 22:45	<a href="#">WG1668054</a>
PCB 1242	ND		0.0408	1	05/11/2021 22:45	<a href="#">WG1668054</a>
PCB 1248	ND		0.0204	1	05/11/2021 22:45	<a href="#">WG1668054</a>
PCB 1254	ND		0.0204	1	05/11/2021 22:45	<a href="#">WG1668054</a>
PCB 1260	ND		0.0204	1	05/11/2021 22:45	<a href="#">WG1668054</a>
PCB 1268	ND		0.0204	1	05/11/2021 22:45	<a href="#">WG1668054</a>
(S) Decachlorobiphenyl	75.9		10.0-135		05/11/2021 22:45	<a href="#">WG1668054</a>
(S) Tetrachloro-m-xylene	78.4		10.0-139		05/11/2021 22:45	<a href="#">WG1668054</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Acenaphthene	ND		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Acenaphthylene	ND		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Benzo(a)anthracene	0.0243		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Benzo(a)pyrene	0.0225		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Benzo(b)fluoranthene	0.0301		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Benzo(g,h,i)perylene	0.0197		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Benzo(k)fluoranthene	0.0110		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Chrysene	0.0263		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Dibenz(a,h)anthracene	ND		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Fluoranthene	0.0460		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Fluorene	ND		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Indeno(1,2,3-cd)pyrene	0.0185		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Naphthalene	ND		0.0240	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Phenanthrene	0.0339		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
Pyrene	0.0492		0.00720	1	05/11/2021 17:12	<a href="#">WG1667777</a>
1-Methylnaphthalene	ND		0.0240	1	05/11/2021 17:12	<a href="#">WG1667777</a>
2-Methylnaphthalene	ND		0.0240	1	05/11/2021 17:12	<a href="#">WG1667777</a>
2-Chloronaphthalene	ND		0.0240	1	05/11/2021 17:12	<a href="#">WG1667777</a>
(S) Nitrobenzene-d5	59.9		14.0-149		05/11/2021 17:12	<a href="#">WG1667777</a>
(S) 2-Fluorobiphenyl	63.1		34.0-125		05/11/2021 17:12	<a href="#">WG1667777</a>
(S) p-Terphenyl-d14	76.0		23.0-120		05/11/2021 17:12	<a href="#">WG1667777</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.3		1	05/08/2021 11:21	<a href="#">WG1665918</a>

## Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Mercury	0.0679		0.0438	1	05/08/2021 01:58	<a href="#">WG1666350</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	7.47		1.10	5	05/09/2021 22:09	<a href="#">WG1666839</a>
Barium	74.7		11.0	20	05/10/2021 00:27	<a href="#">WG1666839</a>
Cadmium	1.14		1.10	5	05/09/2021 22:09	<a href="#">WG1666839</a>
Chromium	155		21.9	20	05/10/2021 00:27	<a href="#">WG1666839</a>
Lead	198		8.76	20	05/10/2021 00:27	<a href="#">WG1666839</a>
Selenium	ND		2.74	5	05/09/2021 22:09	<a href="#">WG1666839</a>
Silver	ND		0.548	5	05/09/2021 22:09	<a href="#">WG1666839</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		2.98	25	05/09/2021 10:45	<a href="#">WG1666156</a>
(S) a,a,a-Trifluorotoluene(FID)	95.0		77.0-120		05/09/2021 10:45	<a href="#">WG1666156</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Acetone	ND	<a href="#">C3</a>	0.0595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Acrylonitrile	ND		0.0149	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Benzene	0.00283		0.00119	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Bromobenzene	ND		0.0149	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Bromodichloromethane	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Bromoform	ND		0.0298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Bromomethane	ND		0.0149	1	05/07/2021 12:51	<a href="#">WG1666254</a>
n-Butylbenzene	ND		0.0149	1	05/07/2021 12:51	<a href="#">WG1666254</a>
sec-Butylbenzene	ND		0.0149	1	05/07/2021 12:51	<a href="#">WG1666254</a>
tert-Butylbenzene	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Carbon disulfide	ND		0.0149	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Carbon tetrachloride	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Chlorobenzene	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Chlorodibromomethane	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Chloroethane	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Chloroform	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Chloromethane	ND		0.0149	1	05/07/2021 12:51	<a href="#">WG1666254</a>
2-Chlorotoluene	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
4-Chlorotoluene	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
1,2-Dibromo-3-Chloropropane	ND		0.0298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
1,2-Dibromoethane	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Dibromomethane	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
1,2-Dichlorobenzene	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
1,3-Dichlorobenzene	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
1,4-Dichlorobenzene	ND		0.00595	1	05/07/2021 12:51	<a href="#">WG1666254</a>
Dichlorodifluoromethane	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>
1,1-Dichloroethane	ND		0.00298	1	05/07/2021 12:51	<a href="#">WG1666254</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00298	1	05/07/2021 12:51	WG1666254
1,1-Dichloroethene	ND		0.00298	1	05/07/2021 12:51	WG1666254
cis-1,2-Dichloroethene	ND		0.00298	1	05/07/2021 12:51	WG1666254
trans-1,2-Dichloroethene	ND		0.00595	1	05/07/2021 12:51	WG1666254
1,2-Dichloropropane	ND		0.00595	1	05/07/2021 12:51	WG1666254
1,1-Dichloropropene	ND		0.00298	1	05/07/2021 12:51	WG1666254
1,3-Dichloropropane	ND		0.00595	1	05/07/2021 12:51	WG1666254
cis-1,3-Dichloropropene	ND		0.00298	1	05/07/2021 12:51	WG1666254
trans-1,3-Dichloropropene	ND		0.00595	1	05/07/2021 12:51	WG1666254
2,2-Dichloropropane	ND		0.00298	1	05/07/2021 12:51	WG1666254
Di-isopropyl ether	ND		0.00119	1	05/07/2021 12:51	WG1666254
Ethylbenzene	0.00343		0.00298	1	05/07/2021 12:51	WG1666254
Hexachloro-1,3-butadiene	ND		0.0298	1	05/07/2021 12:51	WG1666254
Isopropylbenzene	ND		0.00298	1	05/07/2021 12:51	WG1666254
p-Isopropyltoluene	0.0146		0.00595	1	05/07/2021 12:51	WG1666254
2-Butanone (MEK)	ND		0.119	1	05/07/2021 12:51	WG1666254
Methylene Chloride	ND		0.0298	1	05/07/2021 12:51	WG1666254
4-Methyl-2-pentanone (MIBK)	ND		0.0298	1	05/07/2021 12:51	WG1666254
Methyl tert-butyl ether	ND		0.00119	1	05/07/2021 12:51	WG1666254
Naphthalene	0.0612		0.0149	1	05/07/2021 12:51	WG1666254
n-Propylbenzene	ND		0.00595	1	05/07/2021 12:51	WG1666254
Styrene	ND		0.0149	1	05/07/2021 12:51	WG1666254
1,1,1,2-Tetrachloroethane	ND		0.00298	1	05/07/2021 12:51	WG1666254
1,1,2,2-Tetrachloroethane	ND		0.00298	1	05/07/2021 12:51	WG1666254
1,1,2-Trichlorotrifluoroethane	ND		0.00298	1	05/07/2021 12:51	WG1666254
Tetrachloroethene	0.111		0.00298	1	05/07/2021 12:51	WG1666254
Toluene	0.0150		0.00595	1	05/07/2021 12:51	WG1666254
1,2,3-Trichlorobenzene	ND		0.0149	1	05/07/2021 12:51	WG1666254
1,2,4-Trichlorobenzene	ND		0.0149	1	05/07/2021 12:51	WG1666254
1,1,1-Trichloroethane	ND		0.00298	1	05/07/2021 12:51	WG1666254
1,1,2-Trichloroethane	ND		0.00298	1	05/07/2021 12:51	WG1666254
Trichloroethene	ND		0.00119	1	05/07/2021 12:51	WG1666254
Trichlorofluoromethane	ND		0.00298	1	05/07/2021 12:51	WG1666254
1,2,3-Trichloropropane	ND		0.0149	1	05/07/2021 12:51	WG1666254
1,2,4-Trimethylbenzene	0.0258		0.00595	1	05/07/2021 12:51	WG1666254
1,2,3-Trimethylbenzene	0.0205		0.00595	1	05/07/2021 12:51	WG1666254
1,3,5-Trimethylbenzene	0.0133		0.00595	1	05/07/2021 12:51	WG1666254
Vinyl chloride	ND		0.00298	1	05/07/2021 12:51	WG1666254
Xylenes, Total	0.0251		0.00774	1	05/07/2021 12:51	WG1666254
(S) Toluene-d8	101		75.0-131		05/07/2021 12:51	WG1666254
(S) 4-Bromofluorobenzene	102		67.0-138		05/07/2021 12:51	WG1666254
(S) 1,2-Dichloroethane-d4	103		70.0-130		05/07/2021 12:51	WG1666254

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1110		87.6	20	05/08/2021 20:17	WG1666732
Residual Range Organics (RRO)	864		219	20	05/08/2021 20:17	WG1666732
(S) o-Terphenyl	89.5	J7	18.0-148		05/08/2021 20:17	WG1666732

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0372	1	05/11/2021 22:55	<a href="#">WG1668054</a>
PCB 1221	ND		0.0372	1	05/11/2021 22:55	<a href="#">WG1668054</a>
PCB 1232	ND		0.0372	1	05/11/2021 22:55	<a href="#">WG1668054</a>
PCB 1242	ND		0.0372	1	05/11/2021 22:55	<a href="#">WG1668054</a>
PCB 1248	0.118	P	0.0186	1	05/13/2021 21:33	<a href="#">WG1668054</a>
PCB 1254	ND		0.0186	1	05/11/2021 22:55	<a href="#">WG1668054</a>
PCB 1260	0.0839		0.0186	1	05/13/2021 21:33	<a href="#">WG1668054</a>
PCB 1268	ND		0.0186	1	05/11/2021 22:55	<a href="#">WG1668054</a>
(S) Decachlorobiphenyl	82.2		10.0-135		05/13/2021 21:33	<a href="#">WG1668054</a>
(S) Decachlorobiphenyl	81.0		10.0-135		05/11/2021 22:55	<a href="#">WG1668054</a>
(S) Tetrachloro-m-xylene	74.0		10.0-139		05/11/2021 22:55	<a href="#">WG1668054</a>
(S) Tetrachloro-m-xylene	75.7		10.0-139		05/13/2021 21:33	<a href="#">WG1668054</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0249		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Acenaphthene	0.00701		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Acenaphthylene	0.0142		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Benzo(a)anthracene	0.0795		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Benzo(a)pyrene	0.104		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Benzo(b)fluoranthene	0.123		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Benzo(g,h,i)perylene	0.112		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Benzo(k)fluoranthene	0.0406		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Chrysene	0.0691		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Dibenz(a,h)anthracene	0.0163		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Fluoranthene	0.127		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Fluorene	0.00939		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Indeno(1,2,3-cd)pyrene	0.107		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Naphthalene	0.0537		0.0219	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Phenanthrene	0.109		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
Pyrene	0.129		0.00657	1	05/11/2021 22:06	<a href="#">WG1667777</a>
1-Methylnaphthalene	ND		0.0219	1	05/11/2021 22:06	<a href="#">WG1667777</a>
2-Methylnaphthalene	0.0331		0.0219	1	05/11/2021 22:06	<a href="#">WG1667777</a>
2-Chloronaphthalene	ND		0.0219	1	05/11/2021 22:06	<a href="#">WG1667777</a>
(S) Nitrobenzene-d5	63.1		14.0-149		05/11/2021 22:06	<a href="#">WG1667777</a>
(S) 2-Fluorobiphenyl	60.8		34.0-125		05/11/2021 22:06	<a href="#">WG1667777</a>
(S) p-Terphenyl-d14	74.5		23.0-120		05/11/2021 22:06	<a href="#">WG1667777</a>

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.3		1	05/08/2021 06:44	<a href="#">WG1665923</a>

## Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0438	1	05/08/2021 01:59	<a href="#">WG1666350</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Arsenic	3.67		1.09	5	05/09/2021 22:12	<a href="#">WG1666839</a>
Barium	141		5.47	10	05/10/2021 08:20	<a href="#">WG1666839</a>
Cadmium	ND		1.09	5	05/09/2021 22:12	<a href="#">WG1666839</a>
Chromium	34.5		5.47	5	05/09/2021 22:12	<a href="#">WG1666839</a>
Lead	22.1		2.19	5	05/09/2021 22:12	<a href="#">WG1666839</a>
Selenium	ND		2.74	5	05/09/2021 22:12	<a href="#">WG1666839</a>
Silver	ND		0.547	5	05/09/2021 22:12	<a href="#">WG1666839</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.97	25	05/09/2021 11:07	<a href="#">WG1666156</a>
(S) a,a,a-Trifluorotoluene(FID)	96.8		77.0-120		05/09/2021 11:07	<a href="#">WG1666156</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND	<a href="#">C3</a>	0.0595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Acrylonitrile	ND		0.0149	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Benzene	ND		0.00119	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Bromobenzene	ND		0.0149	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Bromodichloromethane	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Bromoform	ND		0.0297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Bromomethane	ND		0.0149	1	05/07/2021 13:10	<a href="#">WG1666254</a>
n-Butylbenzene	ND		0.0149	1	05/07/2021 13:10	<a href="#">WG1666254</a>
sec-Butylbenzene	ND		0.0149	1	05/07/2021 13:10	<a href="#">WG1666254</a>
tert-Butylbenzene	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Carbon disulfide	ND		0.0149	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Carbon tetrachloride	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Chlorobenzene	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Chlorodibromomethane	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Chloroethane	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Chloroform	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Chloromethane	ND		0.0149	1	05/07/2021 13:10	<a href="#">WG1666254</a>
2-Chlorotoluene	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
4-Chlorotoluene	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
1,2-Dibromo-3-Chloropropane	ND		0.0297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
1,2-Dibromoethane	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Dibromomethane	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
1,2-Dichlorobenzene	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
1,3-Dichlorobenzene	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
1,4-Dichlorobenzene	ND		0.00595	1	05/07/2021 13:10	<a href="#">WG1666254</a>
Dichlorodifluoromethane	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>
1,1-Dichloroethane	ND		0.00297	1	05/07/2021 13:10	<a href="#">WG1666254</a>



## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,2-Dichloroethane	ND		0.00297	1	05/07/2021 13:10	WG1666254
1,1-Dichloroethene	ND		0.00297	1	05/07/2021 13:10	WG1666254
cis-1,2-Dichloroethene	ND		0.00297	1	05/07/2021 13:10	WG1666254
trans-1,2-Dichloroethene	ND		0.00595	1	05/07/2021 13:10	WG1666254
1,2-Dichloropropane	ND		0.00595	1	05/07/2021 13:10	WG1666254
1,1-Dichloropropene	ND		0.00297	1	05/07/2021 13:10	WG1666254
1,3-Dichloropropane	ND		0.00595	1	05/07/2021 13:10	WG1666254
cis-1,3-Dichloropropene	ND		0.00297	1	05/07/2021 13:10	WG1666254
trans-1,3-Dichloropropene	ND		0.00595	1	05/07/2021 13:10	WG1666254
2,2-Dichloropropane	ND		0.00297	1	05/07/2021 13:10	WG1666254
Di-isopropyl ether	ND		0.00119	1	05/07/2021 13:10	WG1666254
Ethylbenzene	ND		0.00297	1	05/07/2021 13:10	WG1666254
Hexachloro-1,3-butadiene	ND		0.0297	1	05/07/2021 13:10	WG1666254
Isopropylbenzene	ND		0.00297	1	05/07/2021 13:10	WG1666254
p-Isopropyltoluene	ND		0.00595	1	05/07/2021 13:10	WG1666254
2-Butanone (MEK)	0.121	B	0.119	1	05/07/2021 13:10	WG1666254
Methylene Chloride	ND		0.0297	1	05/07/2021 13:10	WG1666254
4-Methyl-2-pentanone (MIBK)	ND		0.0297	1	05/07/2021 13:10	WG1666254
Methyl tert-butyl ether	ND		0.00119	1	05/07/2021 13:10	WG1666254
Naphthalene	0.0202		0.0149	1	05/07/2021 13:10	WG1666254
n-Propylbenzene	ND		0.00595	1	05/07/2021 13:10	WG1666254
Styrene	ND		0.0149	1	05/07/2021 13:10	WG1666254
1,1,1,2-Tetrachloroethane	ND		0.00297	1	05/07/2021 13:10	WG1666254
1,1,2,2-Tetrachloroethane	ND		0.00297	1	05/07/2021 13:10	WG1666254
1,1,2-Trichlorotrifluoroethane	ND		0.00297	1	05/07/2021 13:10	WG1666254
Tetrachloroethene	ND		0.00297	1	05/07/2021 13:10	WG1666254
Toluene	0.0121		0.00595	1	05/07/2021 13:10	WG1666254
1,2,3-Trichlorobenzene	ND	C4	0.0149	1	05/07/2021 13:10	WG1666254
1,2,4-Trichlorobenzene	ND		0.0149	1	05/07/2021 13:10	WG1666254
1,1,1-Trichloroethane	ND		0.00297	1	05/07/2021 13:10	WG1666254
1,1,2-Trichloroethane	ND		0.00297	1	05/07/2021 13:10	WG1666254
Trichloroethene	ND		0.00119	1	05/07/2021 13:10	WG1666254
Trichlorofluoromethane	ND		0.00297	1	05/07/2021 13:10	WG1666254
1,2,3-Trichloropropane	ND		0.0149	1	05/07/2021 13:10	WG1666254
1,2,4-Trimethylbenzene	0.00762		0.00595	1	05/07/2021 13:10	WG1666254
1,2,3-Trimethylbenzene	ND		0.00595	1	05/07/2021 13:10	WG1666254
1,3,5-Trimethylbenzene	ND		0.00595	1	05/07/2021 13:10	WG1666254
Vinyl chloride	ND		0.00297	1	05/07/2021 13:10	WG1666254
Xylenes, Total	0.0177		0.00773	1	05/07/2021 13:10	WG1666254
(S) Toluene-d8	103		75.0-131		05/07/2021 13:10	WG1666254
(S) 4-Bromofluorobenzene	102		67.0-138		05/07/2021 13:10	WG1666254
(S) 1,2-Dichloroethane-d4	93.8		70.0-130		05/07/2021 13:10	WG1666254

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	73.5		4.38	1	05/08/2021 19:14	WG1666732
Residual Range Organics (RRO)	120		10.9	1	05/08/2021 19:14	WG1666732
(S) o-Terphenyl	70.3		18.0-148		05/08/2021 19:14	WG1666732

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.0372	1	05/13/2021 21:43	<a href="#">WG1668054</a>
PCB 1221	ND		0.0372	1	05/13/2021 21:43	<a href="#">WG1668054</a>
PCB 1232	ND		0.0372	1	05/13/2021 21:43	<a href="#">WG1668054</a>
PCB 1242	ND		0.0372	1	05/13/2021 21:43	<a href="#">WG1668054</a>
PCB 1248	ND		0.0186	1	05/13/2021 21:43	<a href="#">WG1668054</a>
PCB 1254	ND		0.0186	1	05/13/2021 21:43	<a href="#">WG1668054</a>
PCB 1260	0.0408		0.0186	1	05/13/2021 21:43	<a href="#">WG1668054</a>
PCB 1268	ND		0.0186	1	05/13/2021 21:43	<a href="#">WG1668054</a>
(S) Decachlorobiphenyl	86.5		10.0-135		05/13/2021 21:43	<a href="#">WG1668054</a>
(S) Tetrachloro-m-xylene	74.6		10.0-139		05/13/2021 21:43	<a href="#">WG1668054</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Acenaphthene	ND		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Acenaphthylene	ND		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Benzo(a)anthracene	0.0219		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Benzo(a)pyrene	0.0197		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Benzo(b)fluoranthene	0.0303		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Benzo(g,h,i)perylene	0.0197		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Benzo(k)fluoranthene	0.00945		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Chrysene	0.0209		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Dibenz(a,h)anthracene	ND		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Fluoranthene	0.0332		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Fluorene	ND		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Indeno(1,2,3-cd)pyrene	0.0177		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Naphthalene	ND		0.0219	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Phenanthrene	0.0154		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
Pyrene	0.0297		0.00657	1	05/11/2021 22:25	<a href="#">WG1667777</a>
1-Methylnaphthalene	ND		0.0219	1	05/11/2021 22:25	<a href="#">WG1667777</a>
2-Methylnaphthalene	ND		0.0219	1	05/11/2021 22:25	<a href="#">WG1667777</a>
2-Chloronaphthalene	ND		0.0219	1	05/11/2021 22:25	<a href="#">WG1667777</a>
(S) Nitrobenzene-d5	65.9		14.0-149		05/11/2021 22:25	<a href="#">WG1667777</a>
(S) 2-Fluorobiphenyl	62.3		34.0-125		05/11/2021 22:25	<a href="#">WG1667777</a>
(S) p-Terphenyl-d14	73.5		23.0-120		05/11/2021 22:25	<a href="#">WG1667777</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## TRIP BLANK

Collected date/time: 04/30/21 00:00

## SAMPLE RESULTS - 06

L1347655

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	1.64	<a href="#">J3</a>	1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Acrylonitrile	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Acrolein	ND	<a href="#">C3 J3</a>	50.0	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Benzene	ND		0.0400	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Bromobenzene	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Bromodichloromethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Bromoform	ND		1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Bromomethane	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
n-Butylbenzene	ND	<a href="#">C3</a>	0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
sec-Butylbenzene	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
tert-Butylbenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Carbon disulfide	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Carbon tetrachloride	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Chlorobenzene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Chlorodibromomethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Chloroethane	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Chloroform	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Chloromethane	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
2-Chlorotoluene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
4-Chlorotoluene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2-Dibromo-3-Chloropropane	ND		1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2-Dibromoethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Dibromomethane	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2-Dichlorobenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,3-Dichlorobenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,4-Dichlorobenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Dichlorodifluoromethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1-Dichloroethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2-Dichloroethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1-Dichloroethene	ND	<a href="#">C3</a>	0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
cis-1,2-Dichloroethene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
trans-1,2-Dichloroethene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2-Dichloropropane	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1-Dichloropropene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,3-Dichloropropane	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
cis-1,3-Dichloropropene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
trans-1,3-Dichloropropene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
2,2-Dichloropropane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Di-isopropyl ether	ND		0.0400	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Ethylbenzene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Hexachloro-1,3-butadiene	ND		1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
2-Hexanone	ND		1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Isopropylbenzene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
p-Isopropyltoluene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
2-Butanone (MEK)	ND		1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Methylene Chloride	ND		1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
4-Methyl-2-pentanone (MIBK)	ND		1.00	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Methyl tert-butyl ether	ND		0.0400	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Naphthalene	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
n-Propylbenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Styrene	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1,1,2-Tetrachloroethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1,2,2-Tetrachloroethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1,2-Trichlorotrifluoroethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Tetrachloroethene	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Toluene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1347655

DATE/TIME:

05/17/21 09:39

PAGE:

21 of 47

## TRIP BLANK

Collected date/time: 04/30/21 00:00

## SAMPLE RESULTS - 06

L1347655

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichlorobenzene	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2,4-Trichlorobenzene	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1,1-Trichloroethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,1,2-Trichloroethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Trichloroethene	ND		0.0400	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Trichlorofluoromethane	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2,3-Trichloropropane	ND		0.500	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2,4-Trimethylbenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,2,3-Trimethylbenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
1,3,5-Trimethylbenzene	ND		0.200	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Vinyl chloride	ND		0.100	1	05/09/2021 17:10	<a href="#">WG1667276</a>
Xylenes, Total	ND		0.260	1	05/09/2021 17:10	<a href="#">WG1667276</a>
(S) Toluene-d8	104		75.0-131		05/09/2021 17:10	<a href="#">WG1667276</a>
(S) 4-Bromofluorobenzene	98.7		67.0-138		05/09/2021 17:10	<a href="#">WG1667276</a>
(S) 1,2-Dichloroethane-d4	101		70.0-130		05/09/2021 17:10	<a href="#">WG1667276</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

Method Blank (MB)

(MB) R3652221-1 05/08/21 11:21

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

L1347653-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1347653-06 05/08/21 11:21 • (DUP) R3652221-3 05/08/21 11:21

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.8	92.4	1	0.711		10

Laboratory Control Sample (LCS)

(LCS) R3652221-2 05/08/21 11:21

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3652158-1 05/08/21 06:44

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1347655-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1347655-05 05/08/21 06:44 • (DUP) R3652158-3 05/08/21 06:44

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.3	91.2	1	0.189		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3652158-2 05/08/21 06:44

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3651910-1 05/08/21 01:36

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3651910-2 05/08/21 01:38

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.488	97.7	80.0-120	

L1348420-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1348420-03 05/08/21 01:40 • (MS) R3651910-3 05/08/21 01:48 • (MSD) R3651910-4 05/08/21 01:50

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.589	ND	0.548	0.505	93.0	85.8	1	75.0-125			8.06	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3652184-1 05/09/21 18:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Lead	U		0.0990	2.00
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500

Laboratory Control Sample (LCS)

(LCS) R3652184-2 05/09/21 18:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	86.1	86.1	80.0-120	
Barium	100	85.7	85.7	80.0-120	
Cadmium	100	90.1	90.1	80.0-120	
Chromium	100	87.3	87.3	80.0-120	
Lead	100	87.3	87.3	80.0-120	
Selenium	100	87.6	87.6	80.0-120	
Silver	20.0	17.6	87.8	80.0-120	

L1348343-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1348343-01 05/09/21 18:32 • (MS) R3652184-5 05/09/21 18:42 • (MSD) R3652184-6 05/09/21 18:45

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	113	3.91	96.9	104	82.3	89.0	5	75.0-125			7.42	20
Barium	113	123	221	246	86.1	109	5	75.0-125			11.0	20
Cadmium	113	ND	102	114	90.6	101	5	75.0-125			10.9	20
Chromium	113	14.5	110	117	84.4	91.1	5	75.0-125			6.63	20
Lead	113	7.26	105	113	86.8	93.5	5	75.0-125			6.91	20
Selenium	113	ND	100	112	88.3	98.6	5	75.0-125			10.9	20
Silver	22.6	ND	20.3	22.3	89.6	98.5	5	75.0-125			9.46	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3652102-2 05/09/21 04:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	U		0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	95.8			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3652102-1 05/09/21 03:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.50	5.93	108	71.0-124	
(S) a,a,a-Trifluorotoluene(FID)			114	77.0-120	

L1346816-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346816-01 05/09/21 04:54 • (MS) R3652102-3 05/09/21 12:13 • (MSD) R3652102-4 05/09/21 12:35

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	351	ND	373	388	106	110	38.8	10.0-149			3.90	27
(S) a,a,a-Trifluorotoluene(FID)					114	115		77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3651836-2 05/07/21 08:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon disulfide	U		0.000700	0.0125
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3651836-2 05/07/21 08:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Isopropylbenzene	U		0.000425	0.00250
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.120		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	100			75.0-131
(S) 4-Bromofluorobenzene	104			67.0-138
(S) 1,2-Dichloroethane-d4	113			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3651836-1 05/07/21 05:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.460	73.6	10.0-160	
Acrylonitrile	0.625	0.511	81.8	45.0-153	
Benzene	0.125	0.121	96.8	70.0-123	
Bromobenzene	0.125	0.122	97.6	73.0-121	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3651836-1 05/07/21 05:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Bromodichloromethane	0.125	0.114	91.2	73.0-121	
Bromoform	0.125	0.124	99.2	64.0-132	
Bromomethane	0.125	0.120	96.0	56.0-147	
n-Butylbenzene	0.125	0.112	89.6	68.0-135	
sec-Butylbenzene	0.125	0.119	95.2	74.0-130	
tert-Butylbenzene	0.125	0.116	92.8	75.0-127	
Carbon disulfide	0.125	0.112	89.6	56.0-133	
Carbon tetrachloride	0.125	0.126	101	66.0-128	
Chlorobenzene	0.125	0.117	93.6	76.0-128	
Chlorodibromomethane	0.125	0.127	102	74.0-127	
Chloroethane	0.125	0.106	84.8	61.0-134	
Chloroform	0.125	0.112	89.6	72.0-123	
Chloromethane	0.125	0.120	96.0	51.0-138	
2-Chlorotoluene	0.125	0.119	95.2	75.0-124	
4-Chlorotoluene	0.125	0.113	90.4	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.112	89.6	59.0-130	
1,2-Dibromoethane	0.125	0.123	98.4	74.0-128	
Dibromomethane	0.125	0.129	103	75.0-122	
1,2-Dichlorobenzene	0.125	0.124	99.2	76.0-124	
1,3-Dichlorobenzene	0.125	0.115	92.0	76.0-125	
1,4-Dichlorobenzene	0.125	0.117	93.6	77.0-121	
Dichlorodifluoromethane	0.125	0.115	92.0	43.0-156	
1,1-Dichloroethane	0.125	0.118	94.4	70.0-127	
1,2-Dichloroethane	0.125	0.118	94.4	65.0-131	
1,1-Dichloroethene	0.125	0.117	93.6	65.0-131	
cis-1,2-Dichloroethene	0.125	0.113	90.4	73.0-125	
trans-1,2-Dichloroethene	0.125	0.109	87.2	71.0-125	
1,2-Dichloropropane	0.125	0.122	97.6	74.0-125	
1,1-Dichloropropene	0.125	0.114	91.2	73.0-125	
1,3-Dichloropropane	0.125	0.124	99.2	80.0-125	
cis-1,3-Dichloropropene	0.125	0.120	96.0	76.0-127	
trans-1,3-Dichloropropene	0.125	0.122	97.6	73.0-127	
2,2-Dichloropropane	0.125	0.122	97.6	59.0-135	
Di-isopropyl ether	0.125	0.112	89.6	60.0-136	
Ethylbenzene	0.125	0.120	96.0	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.128	102	57.0-150	
Isopropylbenzene	0.125	0.121	96.8	72.0-127	
p-Isopropyltoluene	0.125	0.117	93.6	72.0-133	
2-Butanone (MEK)	0.625	0.604	96.6	30.0-160	
Methylene Chloride	0.125	0.105	84.0	68.0-123	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3651836-1 05/07/21 05:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
4-Methyl-2-pentanone (MIBK)	0.625	0.599	95.8	56.0-143	
Methyl tert-butyl ether	0.125	0.124	99.2	66.0-132	
Naphthalene	0.125	0.122	97.6	59.0-130	
n-Propylbenzene	0.125	0.110	88.0	74.0-126	
Styrene	0.125	0.118	94.4	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.128	102	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.117	93.6	68.0-128	
Tetrachloroethene	0.125	0.123	98.4	70.0-136	
Toluene	0.125	0.118	94.4	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.137	110	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.124	99.2	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.127	102	62.0-137	
1,1,1-Trichloroethane	0.125	0.115	92.0	69.0-126	
1,1,2-Trichloroethane	0.125	0.120	96.0	78.0-123	
Trichloroethene	0.125	0.118	94.4	76.0-126	
Trichlorofluoromethane	0.125	0.121	96.8	61.0-142	
1,2,3-Trichloropropane	0.125	0.121	96.8	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.119	95.2	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.115	92.0	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.115	92.0	73.0-127	
Vinyl chloride	0.125	0.117	93.6	63.0-134	
Xylenes, Total	0.375	0.350	93.3	72.0-127	
(S) Toluene-d8			103	75.0-131	
(S) 4-Bromofluorobenzene			102	67.0-138	
(S) 1,2-Dichloroethane-d4			101	70.0-130	

1  
Cp

2  
Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

L1347647-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-06 05/07/21 15:42 • (MS) R3651836-3 05/07/21 16:58 • (MSD) R3651836-4 05/07/21 17:17

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acetone	3.94	ND	3.47	9.59	88.1	243	8	10.0-160		J3 J5	93.7	40
Acrylonitrile	3.94	ND	3.10	8.01	78.7	203	8	10.0-160		J3 J5	88.3	40
Benzene	0.788	ND	0.764	0.496	96.9	62.9	8	10.0-149		J3	42.6	37
Bromobenzene	0.788	ND	0.791	0.621	100	78.7	8	10.0-156			24.1	38
Bromodichloromethane	0.788	ND	0.706	0.586	89.5	74.4	8	10.0-143			18.5	37
Bromoform	0.788	ND	0.731	0.788	92.7	100	8	10.0-146			7.53	36
Bromomethane	0.788	ND	0.535	0.244	67.9	31.0	8	10.0-149		J3	74.7	38
n-Butylbenzene	0.788	0.275	1.34	0.891	135	78.2	8	10.0-160			39.9	40

L1347647-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-06 05/07/21 15:42 • (MS) R3651836-3 05/07/21 16:58 • (MSD) R3651836-4 05/07/21 17:17

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
sec-Butylbenzene	0.788	0.387	1.28	0.930	114	68.9	8	10.0-159			32.1	39
tert-Butylbenzene	0.788	ND	0.806	0.502	99.2	60.7	8	10.0-156	J3		46.5	39
Carbon disulfide	0.788	ND	0.549	0.271	69.7	34.4	8	10.0-145	J3		67.9	39
Carbon tetrachloride	0.788	ND	0.835	0.421	106	53.4	8	10.0-145	J3		66.0	37
Chlorobenzene	0.788	ND	0.734	0.543	93.1	68.9	8	10.0-152			29.9	39
Chlorodibromomethane	0.788	ND	0.771	0.721	97.7	91.5	8	10.0-146			6.65	37
Chloroethane	0.788	ND	0.533	0.211	67.6	26.8	8	10.0-146	J3		86.5	40
Chloroform	0.788	ND	0.722	0.524	91.6	66.5	8	10.0-146			31.8	37
Chloromethane	0.788	ND	0.591	0.331	75.0	41.9	8	10.0-159	J3		56.6	37
2-Chlorotoluene	0.788	ND	0.743	0.573	94.2	72.7	8	10.0-159			25.7	38
4-Chlorotoluene	0.788	ND	0.697	0.434	88.4	55.0	8	10.0-155	J3		46.6	39
1,2-Dibromo-3-Chloropropane	0.788	ND	0.754	0.959	95.6	122	8	10.0-151			23.9	39
1,2-Dibromoethane	0.788	ND	0.739	0.743	93.7	94.2	8	10.0-148			0.515	34
Dibromomethane	0.788	ND	0.779	0.796	98.9	101	8	10.0-147			2.10	35
1,2-Dichlorobenzene	0.788	ND	0.788	0.689	100	87.4	8	10.0-155			13.4	37
1,3-Dichlorobenzene	0.788	ND	0.739	0.579	93.7	73.4	8	10.0-153			24.3	38
1,4-Dichlorobenzene	0.788	ND	0.757	0.591	96.0	75.0	8	10.0-151			24.5	38
Dichlorodifluoromethane	0.788	ND	0.804	0.353	102	44.8	8	10.0-160	J3		77.8	35
1,1-Dichloroethane	0.788	ND	0.739	0.493	93.7	62.6	8	10.0-147	J3		39.8	37
1,2-Dichloroethane	0.788	ND	0.679	0.682	86.1	86.5	8	10.0-148			0.374	35
1,1-Dichloroethene	0.788	ND	0.720	0.365	91.3	46.3	8	10.0-155	J3		65.4	37
cis-1,2-Dichloroethene	0.788	ND	0.734	0.549	93.1	69.7	8	10.0-149			28.7	37
trans-1,2-Dichloroethene	0.788	ND	0.683	0.412	86.6	52.3	8	10.0-150	J3		49.5	37
1,2-Dichloropropane	0.788	ND	0.776	0.587	98.4	74.5	8	10.0-148			27.6	37
1,1-Dichloropropene	0.788	ND	0.739	0.371	93.7	47.1	8	10.0-153	J3		66.2	35
1,3-Dichloropropane	0.788	ND	0.743	0.721	94.2	91.5	8	10.0-154			2.95	35
cis-1,3-Dichloropropene	0.788	ND	0.760	0.608	96.5	77.1	8	10.0-151			22.3	37
trans-1,3-Dichloropropene	0.788	ND	0.740	0.669	93.9	84.8	8	10.0-148			10.1	37
2,2-Dichloropropane	0.788	ND	0.745	0.416	94.5	52.7	8	10.0-138	J3		56.7	36
Di-isopropyl ether	0.788	ND	0.698	0.655	88.5	83.1	8	10.0-147			6.39	36
Ethylbenzene	0.788	ND	0.754	0.478	95.6	60.6	8	10.0-160	J3		44.8	38
Hexachloro-1,3-butadiene	0.788	ND	1.25	0.947	159	120	8	10.0-160			27.5	40
Isopropylbenzene	0.788	0.0462	0.810	0.528	96.9	61.1	8	10.0-155	J3		42.2	38
p-Isopropyltoluene	0.788	0.0983	0.928	0.635	105	68.0	8	10.0-160			37.6	40
2-Butanone (MEK)	3.94	ND	3.75	6.17	95.2	156	8	10.0-160	J3		48.7	40
Methylene Chloride	0.788	ND	0.711	0.537	90.2	68.1	8	10.0-141			27.9	37
4-Methyl-2-pentanone (MIBK)	3.94	ND	3.85	5.37	97.7	136	8	10.0-160			32.8	35
Methyl tert-butyl ether	0.788	ND	0.731	0.973	92.7	123	8	11.0-147			28.4	35
Naphthalene	0.788	0.261	1.15	1.27	113	128	8	10.0-160			9.24	36

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1347647-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-06 05/07/21 15:42 • (MS) R3651836-3 05/07/21 16:58 • (MSD) R3651836-4 05/07/21 17:17

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
n-Propylbenzene	0.788	0.137	0.842	0.576	89.4	55.6	8	10.0-158			37.5	38
Styrene	0.788	ND	0.734	0.558	93.1	70.8	8	10.0-160			27.2	40
1,1,1,2-Tetrachloroethane	0.788	ND	0.776	0.668	98.4	84.7	8	10.0-149			15.0	39
1,1,2,2-Tetrachloroethane	0.788	ND	2.30	2.23	292	282	8	10.0-160	J5	J5	3.37	35
Tetrachloroethene	0.788	ND	0.764	0.421	96.9	53.4	8	10.0-156		J3	57.9	39
Toluene	0.788	ND	0.715	0.467	90.6	59.2	8	10.0-156		J3	42.0	38
1,1,2-Trichlorotrifluoroethane	0.788	ND	0.944	0.416	120	52.7	8	10.0-160		J3	77.6	36
1,2,3-Trichlorobenzene	0.788	ND	0.744	0.710	94.4	90.0	8	10.0-160			4.72	40
1,2,4-Trichlorobenzene	0.788	ND	0.843	0.752	107	95.3	8	10.0-160			11.5	40
1,1,1-Trichloroethane	0.788	ND	0.740	0.413	93.9	52.4	8	10.0-144		J3	56.7	35
1,1,2-Trichloroethane	0.788	ND	0.913	0.947	116	120	8	10.0-160			3.69	35
Trichloroethene	0.788	ND	0.768	0.524	97.4	66.5	8	10.0-156			37.8	38
Trichlorofluoromethane	0.788	ND	0.702	0.317	89.0	40.2	8	10.0-160		J3	75.7	40
1,2,3-Trichloropropane	0.788	ND	0.346	0.754	43.9	95.6	8	10.0-156		J3	74.2	35
1,2,3-Trimethylbenzene	0.788	ND	0.750	0.523	95.2	66.3	8	10.0-160			35.8	36
1,2,4-Trimethylbenzene	0.788	0.215	1.05	0.799	105	74.0	8	10.0-160			26.9	36
1,3,5-Trimethylbenzene	0.788	0.0889	0.900	0.600	103	64.9	8	10.0-160		J3	40.0	38
Vinyl chloride	0.788	ND	0.687	0.328	87.1	41.6	8	10.0-160		J3	70.7	37
Xylenes, Total	2.37	ND	2.20	1.50	93.0	63.4	8	10.0-160			37.8	38
(S) Toluene-d8					96.3	100		75.0-131				
(S) 4-Bromofluorobenzene					107	113		67.0-138				
(S) 1,2-Dichloroethane-d4					98.8	112		70.0-130				

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3652254-3 05/09/21 14:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		0.548	1.00
Acrolein	U		0.758	50.0
Acrylonitrile	U		0.0760	0.500
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon disulfide	U		0.162	0.500
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,2-Dichlorobenzene	U		0.0580	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100

1  
Cp

2  
Tc

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Ss

4  
Cn

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Sr

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Qc

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Gl

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Al

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Sc



Method Blank (MB)

(MB) R3652254-3 05/09/21 14:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.508	1.00
2-Hexanone	U		0.400	1.00
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	1.75		0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
(S) Toluene-d8	106			75.0-131
(S) 4-Bromofluorobenzene	94.6			67.0-138
(S) 1,2-Dichloroethane-d4	92.2			70.0-130

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3652254-1 05/09/21 12:25 • (LCSD) R3652254-2 05/09/21 13:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	21.2	29.7	84.8	119	10.0-160		J3	33.4	31
Acrolein	25.0	4.81	10.0	19.2	40.0	10.0-160		J3	70.1	31

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3652254-1 05/09/21 12:25 • (LCSD) R3652254-2 05/09/21 13:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acrylonitrile	25.0	20.5	22.5	82.0	90.0	45.0-153			9.30	22
Benzene	5.00	4.72	4.59	94.4	91.8	70.0-123			2.79	20
Bromobenzene	5.00	4.95	4.65	99.0	93.0	73.0-121			6.25	20
Bromodichloromethane	5.00	4.69	4.69	93.8	93.8	73.0-121			0.000	20
Bromoform	5.00	4.68	4.71	93.6	94.2	64.0-132			0.639	20
Bromomethane	5.00	5.17	5.36	103	107	56.0-147			3.61	20
n-Butylbenzene	5.00	3.93	3.93	78.6	78.6	68.0-135			0.000	20
sec-Butylbenzene	5.00	4.37	4.19	87.4	83.8	74.0-130			4.21	20
tert-Butylbenzene	5.00	4.83	4.55	96.6	91.0	75.0-127			5.97	20
Carbon disulfide	5.00	4.53	4.54	90.6	90.8	56.0-133			0.221	20
Carbon tetrachloride	5.00	4.87	4.93	97.4	98.6	66.0-128			1.22	20
Chlorobenzene	5.00	4.68	4.55	93.6	91.0	76.0-128			2.82	20
Chlorodibromomethane	5.00	4.93	4.80	98.6	96.0	74.0-127			2.67	20
Chloroethane	5.00	4.18	4.31	83.6	86.2	61.0-134			3.06	20
Chloroform	5.00	4.94	5.08	98.8	102	72.0-123			2.79	20
Chloromethane	5.00	4.22	4.26	84.4	85.2	51.0-138			0.943	20
2-Chlorotoluene	5.00	4.27	4.25	85.4	85.0	75.0-124			0.469	20
4-Chlorotoluene	5.00	4.49	4.16	89.8	83.2	75.0-124			7.63	20
1,2-Dibromo-3-Chloropropane	5.00	4.69	4.79	93.8	95.8	59.0-130			2.11	20
1,2-Dibromoethane	5.00	4.65	4.51	93.0	90.2	74.0-128			3.06	20
Dibromomethane	5.00	4.73	4.75	94.6	95.0	75.0-122			0.422	20
1,2-Dichlorobenzene	5.00	4.59	4.51	91.8	90.2	76.0-124			1.76	20
1,3-Dichlorobenzene	5.00	4.51	4.29	90.2	85.8	76.0-125			5.00	20
1,4-Dichlorobenzene	5.00	4.60	4.48	92.0	89.6	77.0-121			2.64	20
Dichlorodifluoromethane	5.00	4.54	4.81	90.8	96.2	43.0-156			5.78	20
1,1-Dichloroethane	5.00	4.42	4.33	88.4	86.6	70.0-127			2.06	20
1,2-Dichloroethane	5.00	4.55	4.81	91.0	96.2	65.0-131			5.56	20
1,1-Dichloroethene	5.00	3.91	3.91	78.2	78.2	65.0-131			0.000	20
cis-1,2-Dichloroethene	5.00	4.85	4.77	97.0	95.4	73.0-125			1.66	20
trans-1,2-Dichloroethene	5.00	4.65	4.65	93.0	93.0	71.0-125			0.000	20
1,2-Dichloropropane	5.00	4.31	4.27	86.2	85.4	74.0-125			0.932	20
1,1-Dichloropropene	5.00	5.25	5.15	105	103	73.0-125			1.92	20
1,3-Dichloropropane	5.00	4.50	4.40	90.0	88.0	80.0-125			2.25	20
cis-1,3-Dichloropropene	5.00	5.06	4.97	101	99.4	76.0-127			1.79	20
trans-1,3-Dichloropropene	5.00	4.87	4.81	97.4	96.2	73.0-127			1.24	20
2,2-Dichloropropane	5.00	5.37	5.15	107	103	59.0-135			4.18	20
Di-isopropyl ether	5.00	4.20	4.31	84.0	86.2	60.0-136			2.59	20
Ethylbenzene	5.00	4.68	4.48	93.6	89.6	74.0-126			4.37	20
Hexachloro-1,3-butadiene	5.00	4.38	4.90	87.6	98.0	57.0-150			11.2	20
2-Hexanone	25.0	20.3	19.4	81.2	77.6	54.0-147			4.53	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3652254-1 05/09/21 12:25 • (LCSD) R3652254-2 05/09/21 13:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Isopropylbenzene	5.00	4.41	4.42	88.2	88.4	72.0-127			0.227	20
p-Isopropyltoluene	5.00	4.59	4.46	91.8	89.2	72.0-133			2.87	20
2-Butanone (MEK)	25.0	21.9	24.8	87.6	99.2	30.0-160			12.4	24
Methylene Chloride	5.00	4.57	4.52	91.4	90.4	68.0-123			1.10	20
4-Methyl-2-pentanone (MIBK)	25.0	21.5	21.1	86.0	84.4	56.0-143			1.88	20
Methyl tert-butyl ether	5.00	4.32	4.36	86.4	87.2	66.0-132			0.922	20
Naphthalene	5.00	4.07	4.29	81.4	85.8	59.0-130			5.26	20
n-Propylbenzene	5.00	4.48	4.10	89.6	82.0	74.0-126			8.86	20
Styrene	5.00	4.57	4.44	91.4	88.8	72.0-127			2.89	20
1,1,1,2-Tetrachloroethane	5.00	4.74	4.72	94.8	94.4	74.0-129			0.423	20
1,1,2,2-Tetrachloroethane	5.00	4.36	4.10	87.2	82.0	68.0-128			6.15	20
Tetrachloroethene	5.00	5.06	4.75	101	95.0	70.0-136			6.32	20
Toluene	5.00	4.58	4.36	91.6	87.2	75.0-121			4.92	20
1,1,2-Trichlorotrifluoroethane	5.00	4.52	4.62	90.4	92.4	61.0-139			2.19	20
1,2,3-Trichlorobenzene	5.00	4.26	4.69	85.2	93.8	59.0-139			9.61	20
1,2,4-Trichlorobenzene	5.00	4.21	4.76	84.2	95.2	62.0-137			12.3	20
1,1,1-Trichloroethane	5.00	4.92	4.85	98.4	97.0	69.0-126			1.43	20
1,1,2-Trichloroethane	5.00	4.46	4.58	89.2	91.6	78.0-123			2.65	20
Trichloroethene	5.00	5.13	5.02	103	100	76.0-126			2.17	20
Trichlorofluoromethane	5.00	4.62	4.60	92.4	92.0	61.0-142			0.434	20
1,2,3-Trichloropropane	5.00	4.83	4.58	96.6	91.6	67.0-129			5.31	20
1,2,3-Trimethylbenzene	5.00	4.33	4.24	86.6	84.8	74.0-124			2.10	20
1,2,4-Trimethylbenzene	5.00	4.54	4.31	90.8	86.2	70.0-126			5.20	20
1,3,5-Trimethylbenzene	5.00	4.66	4.38	93.2	87.6	73.0-127			6.19	20
Vinyl chloride	5.00	4.60	4.53	92.0	90.6	63.0-134			1.53	20
Xylenes, Total	15.0	13.4	13.0	89.3	86.7	72.0-127			3.03	20
(S) Toluene-d8				103	104	75.0-131				
(S) 4-Bromofluorobenzene				97.1	101	67.0-138				
(S) 1,2-Dichloroethane-d4				101	105	70.0-130				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

WG1666732

QUALITY CONTROL SUMMARY

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

L1347655-01,02,03,04,05

Method Blank (MB)

(MB) R3652071-1 05/08/21 15:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	78.2			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3652071-2 05/08/21 15:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	49.1	98.2	50.0-150	
(S) o-Terphenyl			86.5	18.0-148	

L1347619-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347619-05 05/08/21 16:55 • (MS) R3652071-3 05/08/21 17:08 • (MSD) R3652071-4 05/08/21 17:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	53.5	ND	50.6	71.7	88.2	123	1	50.0-150		J3	34.5	20
(S) o-Terphenyl					66.9	67.1		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3654096-1 05/12/21 20:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
PCB 1016	U		0.0118	0.0340
PCB 1221	U		0.0118	0.0340
PCB 1232	U		0.0118	0.0340
PCB 1242	U		0.0118	0.0340
PCB 1248	U		0.00738	0.0170
PCB 1254	U		0.00738	0.0170
PCB 1260	U		0.00738	0.0170
PCB 1268	U		0.00738	0.0170
(S) Decachlorobiphenyl	62.6			10.0-135
(S) Tetrachloro-m-xylene	62.2			10.0-139

Laboratory Control Sample (LCS)

(LCS) R3654096-2 05/12/21 21:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	0.167	0.0673	40.3	37.0-145	
PCB 1016	0.167	0.0707	42.3	36.0-141	
(S) Decachlorobiphenyl			45.9	10.0-135	
(S) Tetrachloro-m-xylene			43.8	10.0-139	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3653568-1 05/11/21 16:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
PCB 1016	U		0.0118	0.0340
PCB 1221	U		0.0118	0.0340
PCB 1232	U		0.0118	0.0340
PCB 1242	U		0.0118	0.0340
PCB 1248	U		0.00738	0.0170
PCB 1254	U		0.00738	0.0170
PCB 1260	U		0.00738	0.0170
PCB 1268	U		0.00738	0.0170
(S) Decachlorobiphenyl	47.9			10.0-135
(S) Tetrachloro-m-xylene	49.1			10.0-139

Laboratory Control Sample (LCS)

(LCS) R3653568-2 05/11/21 16:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	0.167	0.114	68.3	37.0-145	
PCB 1016	0.167	0.119	71.3	36.0-141	
(S) Decachlorobiphenyl			67.3	10.0-135	
(S) Tetrachloro-m-xylene			70.9	10.0-139	

L1348222-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1348222-01 05/11/21 23:15 • (MS) R3653568-3 05/11/21 23:25 • (MSD) R3653568-4 05/11/21 23:35

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1260	0.181	ND	0.179	0.102	98.8	45.2	1	10.0-160	P	J3	74.4	38
PCB 1016	0.181	ND	0.186	0.117	82.6	51.9	1	10.0-160	P	J3	45.7	37
(S) Decachlorobiphenyl					68.3	65.3		10.0-135				
(S) Tetrachloro-m-xylene					77.5	71.9		10.0-139				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3653116-2 05/11/21 14:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	71.3			14.0-149
(S) 2-Fluorobiphenyl	77.2			34.0-125
(S) p-Terphenyl-d14	103			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3653116-1 05/11/21 14:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0540	67.5	50.0-126	
Acenaphthene	0.0800	0.0613	76.6	50.0-120	
Acenaphthylene	0.0800	0.0600	75.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0516	64.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0486	60.8	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0602	75.3	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0628	78.5	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0589	73.6	49.0-125	
Chrysene	0.0800	0.0604	75.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0584	73.0	47.0-125	
Fluoranthene	0.0800	0.0606	75.8	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3653116-1 05/11/21 14:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0625	78.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0553	69.1	46.0-125	
Naphthalene	0.0800	0.0625	78.1	50.0-120	
Phenanthrene	0.0800	0.0608	76.0	47.0-120	
Pyrene	0.0800	0.0612	76.5	43.0-123	
1-Methylnaphthalene	0.0800	0.0653	81.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0606	75.8	50.0-120	
2-Chloronaphthalene	0.0800	0.0579	72.4	50.0-120	
(S) Nitrobenzene-d5			71.7	14.0-149	
(S) 2-Fluorobiphenyl			76.6	34.0-125	
(S) p-Terphenyl-d14			96.0	23.0-120	

L1347666-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347666-23 05/11/21 19:29 • (MS) R3653116-3 05/11/21 19:49 • (MSD) R3653116-4 05/11/21 20:08

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.106	ND	0.0607	0.0617	57.1	57.3	1	10.0-145			1.76	30
Acenaphthene	0.106	ND	0.0721	0.0743	64.1	65.2	1	14.0-127			2.95	27
Acenaphthylene	0.106	ND	0.0660	0.0681	62.2	63.1	1	21.0-124			3.02	25
Benzo(a)anthracene	0.106	ND	0.0573	0.0585	53.9	54.3	1	10.0-139			2.10	30
Benzo(a)pyrene	0.106	ND	0.0603	0.0617	56.7	57.3	1	10.0-141			2.43	31
Benzo(b)fluoranthene	0.106	ND	0.0659	0.0677	62.1	62.8	1	10.0-140			2.62	36
Benzo(g,h,i)perylene	0.106	ND	0.0673	0.0683	63.3	63.4	1	10.0-140			1.59	33
Benzo(k)fluoranthene	0.106	ND	0.0635	0.0660	59.8	61.3	1	10.0-137			3.95	31
Chrysene	0.106	ND	0.0670	0.0677	63.1	62.8	1	10.0-145			1.00	30
Dibenz(a,h)anthracene	0.106	ND	0.0594	0.0609	56.0	56.5	1	10.0-132			2.46	31
Fluoranthene	0.106	ND	0.0659	0.0670	62.1	62.1	1	10.0-153			1.62	33
Fluorene	0.106	ND	0.0811	0.0832	69.1	70.0	1	11.0-130			2.46	29
Indeno(1,2,3-cd)pyrene	0.106	ND	0.0588	0.0569	55.3	52.8	1	10.0-137			3.26	32
Naphthalene	0.106	0.539	1.03	0.834	461	274	1	10.0-135	V	V	20.8	27
Phenanthrene	0.106	0.00927	0.0802	0.0837	66.8	69.0	1	10.0-144			4.28	31
Pyrene	0.106	ND	0.0704	0.0710	66.2	65.9	1	10.0-148			0.953	35
1-Methylnaphthalene	0.106	0.318	0.613	0.619	278	279	1	10.0-142	J5	J5	0.875	28
2-Methylnaphthalene	0.106	0.644	1.14	1.14	471	460	1	10.0-137	V	V	0.354	28
2-Chloronaphthalene	0.106	ND	0.0654	0.0673	61.5	62.4	1	29.0-120			2.85	24
(S) Nitrobenzene-d5					68.7	65.5		14.0-149				
(S) 2-Fluorobiphenyl					59.2	59.7		34.0-125				
(S) p-Terphenyl-d14					73.8	72.9		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L1349826-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1349826-25 05/11/21 21:07 • (MS) R3653116-5 05/11/21 21:27 • (MSD) R3653116-6 05/11/21 21:46

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	ND	0.0505	0.0483	63.1	60.4	1	10.0-145			4.45	30
Acenaphthene	0.0800	ND	0.0588	0.0568	73.5	71.0	1	14.0-127			3.46	27
Acenaphthylene	0.0800	ND	0.0564	0.0548	70.5	68.5	1	21.0-124			2.88	25
Benzo(a)anthracene	0.0800	ND	0.0523	0.0489	62.3	58.1	1	10.0-139			6.72	30
Benzo(a)pyrene	0.0800	0.00887	0.0624	0.0553	66.9	58.0	1	10.0-141			12.1	31
Benzo(b)fluoranthene	0.0800	0.0132	0.0697	0.0616	70.6	60.5	1	10.0-140			12.3	36
Benzo(g,h,i)perylene	0.0800	0.0289	0.0930	0.0770	80.1	60.1	1	10.0-140			18.8	33
Benzo(k)fluoranthene	0.0800	ND	0.0619	0.0585	73.0	68.7	1	10.0-137			5.65	31
Chrysene	0.0800	ND	0.0631	0.0587	73.4	67.9	1	10.0-145			7.22	30
Dibenz(a,h)anthracene	0.0800	ND	0.0576	0.0560	72.0	70.0	1	10.0-132			2.82	31
Fluoranthene	0.0800	0.00848	0.0665	0.0593	72.5	63.5	1	10.0-153			11.4	33
Fluorene	0.0800	ND	0.0630	0.0689	78.8	86.1	1	11.0-130			8.95	29
Indeno(1,2,3-cd)pyrene	0.0800	0.0193	0.0739	0.0626	68.3	54.1	1	10.0-137			16.6	32
Naphthalene	0.0800	ND	0.0607	0.0631	75.9	78.9	1	10.0-135			3.88	27
Phenanthrene	0.0800	ND	0.0586	0.0571	73.3	71.4	1	10.0-144			2.59	31
Pyrene	0.0800	0.0145	0.0716	0.0644	71.4	62.4	1	10.0-148			10.6	35
1-Methylnaphthalene	0.0800	ND	0.0632	0.0620	79.0	77.5	1	10.0-142			1.92	28
2-Methylnaphthalene	0.0800	ND	0.0579	0.0577	72.4	72.1	1	10.0-137			0.346	28
2-Chloronaphthalene	0.0800	ND	0.0551	0.0538	68.9	67.3	1	29.0-120			2.39	24
(S) Nitrobenzene-d5					63.9	62.8		14.0-149				
(S) 2-Fluorobiphenyl					70.0	68.7		34.0-125				
(S) p-Terphenyl-d14					85.0	83.7		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

## Qualifier Description

B	The same analyte is found in the associated blank.
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P	RPD between the primary and confirmatory analysis exceeded 40%.
V	The sample concentration is too high to evaluate accurate spike recoveries.

# ACCREDITATIONS & LOCATIONS

DRAFT

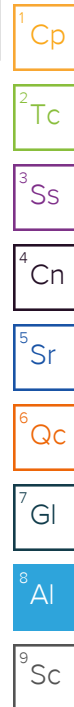
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1347655

DATE/TIME:

05/17/21 09:39

PAGE:

45 of 47

Martin S. Burck Associates  
100 N. Wasco Ct., Hood River, OR 97031

Billing Information:

Accounts Payable  
200 N. Wasco Ct.  
Hood River, OR 97031

Pres  
Chk

Report to:  
Josh Owen

Email To:  
jowen@msbaenvironmental.com

Project  
Description: North Star Casteel

City/State  
Collected: Vancouver, WA

Phone: 541.387.4422

Client Project #  
North Star

Lab Project #  
MSBAHROR-NSTARCASTEE

Fax: 541.387.4813

Collected by (print):  
Jan White

Site/Facility ID #

P.O. #  
North Star

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Immediately  
Backed on Ice N ☒ Y ☒

Same Day ☐ Five Day ☐  
Next Day ☐ 5 Day (Rad Only) ☐  
Two Day ☐ 10 Day (Rad Only) ☐  
Three Day ☐

Date Results Needed

No.  
of  
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	8260D - VOCs - RBDW List	8270 ESIM - PAHs	PCBs	RCRA 8 Metals	Hold
SP1-A	grab	SS	-	4/30/21	1155	2		✓	✓	✓	✓	✓	✓	
SP1-B	grab	SS	-	4/30/21	1205	2		✓	✓	✓	✓	✓	✓	
SP1-C	grab	SS	-	4/30/21	1217	2		✓	✓	✓	✓	✓	✓	
SP2-A	grab	SS	-	4/30/21	1415	3		✓	✓	✓	✓	✓	✓	
SP2-B	grab	SS	-	4/30/21	1422	4		✓	✓	✓	✓	✓	✓	
SP2-C	grab	SS	-	4/30/21	1436	4		✓	✓	✓	✓	✓	✓	
SP3-A	grab	SS	-	4/30/21	1449	4		✓	✓	✓	✓	✓	✓	
SP3-B	grab	SS	-	4/30/21	1506	4		✓	✓	✓	✓	✓	✓	
SP3-C	grab	SS	-	4/30/21	1511	4		✓	✓	✓	✓	✓	✓	
Trip Blank	-	OT2	-			1				✓				x

Matrix:  
S - Soil AIR - Air F - Filter  
IW - Groundwater B - Blossay  
WW - WasteWater  
RW - Drinking Water  
IT - Other OT1 = Distilled Water  
OT2 = Lab Provided Water

Remarks: Will email analytical requests ASAP.

9883 0087 4119

Samples returned via:

UPS ☐ FedEx ☐ Courier ☐

Tracking #

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Invoice  
Custom  
Phone  
SAT Or

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N If Applicable  
COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☒ Y ☐ N  
Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☒ Y ☐ N  
Correct bottles used: ☒ Y ☐ N  
Sufficient volume sent: ☒ Y ☐ N  
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

ROL/MeOH  
TBR

Temp:

°C

Bottles Received:

If preservation required by Logix: Date/Time

Date:

Time:

05-031

Condition:  
NCF / OK

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lebonon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



L# 1347655

Table #

Account:

Template:

Prelogin:

TSR:

PR:

Shipped Via:

Newsletters

Sample # (Lab only)

-01

-02

-03

Composite -04

Composite -05

-06





12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



L # 1347655

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks

Sample # (lab only)

Analysis / Container / Preservative

Pres  
Chk

NWTPH-HCID

NWTPH-Gx

NWTPH-Dx

8260D - VOCs - RBDM List

8270 E SIM - PAHs

Hold

X

Billing Information:

Accounts Payable  
200 N. Wasco Ct.  
Hood River, OR 97031

Email To:

jowen@msbaenvironmental.com

Martin S. Burck Associates  
200 N. Wasco Ct., Hood River, OR 97031

Report to:  
Josh Owen

Project  
Description: North Star Casteel

City/State  
Collected: Vancouver, WA

Phone: 541.387.4422  
Fax: 541.387.4813

Client Project #  
North Star

Lab Project #  
MSBAHROR-NSTARCASTEE

Collected by (print):  
Jan White

Site/Facility ID #

P.O. #  
North Star

Collected by (signature):

Rush? (Lab MUST Be Notified)

\_\_\_ Same Day \_\_\_ Five Day  
\_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
\_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
\_\_\_ Three Day

Quote #

Date Results Needed

No.  
of  
Cntrs

Immediately  
Packed on Ice N \_\_\_ Y ☒

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
SP1-A	grab	SS	-	4/30/21	1155	2
SP1-B	grab	SS	-	4/30/21	1205	2
SP1-C	grab	SS	-	4/30/21	1217	2
SP2-A	grab	SS	-	4/30/21	1415	3
SP2-B	grab	SS	-	4/30/21	1422	4
SP2-C	grab	SS	-	4/30/21	1436	4
SP3-A	grab	SS	-	4/30/21	1449	4
SP3-B	grab	SS	-	4/30/21	1506	4
SP3-C	grab	SS	-	4/30/21	1511	4
Trip Blank	-	OT2	-			1

\* Matrix:

SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other OT1 = Distilled Water  
OT2 = Lab Provided Water

Remarks: Will email analytical requests ASAP.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:

\_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N  
COC Signed/Accurate: Y N  
Bottles arrive intact: Y N  
Correct bottles used: Y N  
Sufficient volume sent: Y N  
If Applicable  
VOA Zero Headspace: Y N  
Preservation Correct/Checked: Y N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes / No  
HCL / MeOH  
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 17.01 °C  
5-15 °C  
Bottles Received: 30

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 5/4/21 Time: 12:00

Hold:

Condition:  
NCF / OK

# DRAFT

---

11) Sample Date 4/30/21 (#L1350828)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1350828  
Samples Received: 05/04/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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DRAFT

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<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



# SAMPLE SUMMARY

DRAFT

## SP1-B L1350828-01 Solid

Collected by  
Jon White

Collected date/time  
04/30/21 12:05

Received date/time  
05/04/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665918	1	05/08/21 11:04	05/08/21 11:21	JAV	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1669705	1	05/13/21 23:42	05/14/21 13:09	MSP	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

## SP1-C L1350828-02 Waste

Collected by  
Jon White

Collected date/time  
04/30/21 12:17

Received date/time  
05/04/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG1670509	1	05/14/21 12:30	05/14/21 12:30	IDW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1670944	1	05/15/21 17:13	05/16/21 15:47	EL	Mt. Juliet, TN

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

## SP2-ABC L1350828-03 Solid

Collected by  
Jon White

Collected date/time  
04/30/21 00:00

Received date/time  
05/04/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665918	1	05/08/21 11:04	05/08/21 11:21	JAV	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1669705	1	05/13/21 23:42	05/14/21 13:35	MSP	Mt. Juliet, TN

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

## SP2-ABC L1350828-04 Waste

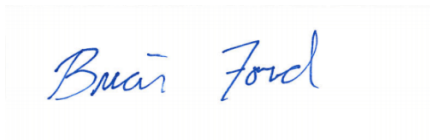
Collected by  
Jon White

Collected date/time  
04/30/21 00:00

Received date/time  
05/04/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG1670793	1	05/15/21 08:44	05/15/21 08:44	TM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1671714	1	05/16/21 22:22	05/17/21 09:30	EL	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.5		1	05/08/2021 11:21	<a href="#">WG1665918</a>

1 Cp

2 Tc

## Wet Chemistry by Method 7199

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND	<a href="#">J3 J6</a>	1.05	1	05/14/2021 13:09	<a href="#">WG1669705</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		5/14/2021 12:30:20 PM	WG1670509
Fluid	1		5/14/2021 12:30:20 PM	WG1670509
Initial pH	7.20		5/14/2021 12:30:20 PM	WG1670509
Final pH	5.10		5/14/2021 12:30:20 PM	WG1670509

## Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Barium	1.24		0.100	100	1	05/16/2021 15:47	<a href="#">WG1670944</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.3		1	05/08/2021 11:21	<a href="#">WG1665918</a>

1 Cp

2 Tc

## Wet Chemistry by Method 7199

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.10	1	05/14/2021 13:35	<a href="#">WG1669705</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		5/15/2021 8:44:14 AM	WG1670793
Fluid	1		5/15/2021 8:44:14 AM	WG1670793
Initial pH	8.44		5/15/2021 8:44:14 AM	WG1670793
Final pH	5.10		5/15/2021 8:44:14 AM	WG1670793

## Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Chromium	ND		0.100	5	1	05/17/2021 09:30	<a href="#">WG1671714</a>
Lead	ND		0.100	5	1	05/17/2021 09:30	<a href="#">WG1671714</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

Method Blank (MB)

(MB) R3652221-1 05/08/21 11:21

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

1  
Cp

2  
Tc

3  
Ss

L1347653-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1347653-06 05/08/21 11:21 • (DUP) R3652221-3 05/08/21 11:21

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.8	92.4	1	0.711		10

4  
Cn

5  
Sr

6  
Qc

Laboratory Control Sample (LCS)

(LCS) R3652221-2 05/08/21 11:21

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3654626-1 05/14/21 10:59

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Hexavalent Chromium	U		0.255	1.00

L1346831-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1346831-01 05/14/21 11:14 • (DUP) R3654626-3 05/14/21 11:20

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3654626-2 05/14/21 11:04

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	11.8	118	80.0-120	

L1350828-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1350828-01 05/14/21 13:09 • (MS) R3654626-5 05/14/21 13:14 • (MSD) R3654626-6 05/14/21 13:19

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.9	ND	5.45	6.77	26.0	32.3	1	75.0-125	J6	J3 J6	21.6	20

L1350828-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1350828-01 05/14/21 13:09 • (MS) R3654626-7 05/14/21 13:24

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	675	ND	515	76.4	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3655120-1 05/16/21 14:33

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Barium	U		0.0333	0.100

Laboratory Control Sample (LCS)

(LCS) R3655120-2 05/16/21 14:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Barium	10.0	10.2	102	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3655386-1 05/17/21 09:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium	U		0.0333	0.100
Lead	U		0.0333	0.100

Laboratory Control Sample (LCS)

(LCS) R3655386-2 05/17/21 09:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium	10.0	9.62	96.2	80.0-120	
Lead	10.0	9.84	98.4	80.0-120	

L1350828-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1350828-04 05/17/21 09:30 • (MS) R3655386-4 05/17/21 09:36 • (MSD) R3655386-5 05/17/21 09:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium	10.0	ND	9.74	9.75	97.4	97.5	1	75.0-125			0.0808	20
Lead	10.0	ND	10.0	9.99	99.8	99.2	1	75.0-125			0.519	20

L1352030-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1352030-02 05/17/21 09:41 • (MS) R3655386-6 05/17/21 09:43 • (MSD) R3655386-7 05/17/21 09:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium	10.0	0.633	10.3	10.4	97.1	98.1	1	75.0-125			0.956	20
Lead	10.0	0.156	9.94	10.1	97.9	98.9	1	75.0-125			1.07	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

## Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

# ACCREDITATIONS & LOCATIONS

DRAFT

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1350828

DATE/TIME:

05/17/21 16:05

PAGE:

14 of 16

Martin S. Burck Associates  
100 N. Wasco Ct., Hood River, OR 97031

Billing Information:

Accounts Payable  
200 N. Wasco Ct.  
Hood River, OR 97031

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lefferson Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



Report to:  
Josh Owen

Email To:  
jowen@msbaenvironmental.com

Project:  
Description: North Star Casteel

City/State  
Collected: Vancouver, WA

Phone: 541.387.4422

Client Project #  
North Star

Lab Project #  
MSBAHROR-NSTARCASTEE

Fax: 541.387.4813

Collected by (print):  
Jan White

Site/Facility ID #

P.O. #  
North Star

Collected by (signature):  
[Signature]

Rush? (Lab MUST Be Notified)

Quote #

Date Results Needed

No.  
of  
Cntrs

Immediately  
Packed on Ice: N ☐ Y ☒

Same Day ☐ Five Day ☐  
Next Day ☐ 5 Day (Rad Only) ☐  
Two Day ☐ 10 Day (Rad Only) ☐  
Three Day ☐

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPH-HCID	NWTPH-GX	NWTPH-DX	8260D - VOCs - BBOM List	8270 ESIM - PAHs	PCBs	RCRA 8 Metals	Hold
SP1-A	grab	SS	-	4/30/21	1155	2		✓	✓	✓	✓	✓	✓	
SP1-B	grab	SS	-	4/30/21	1205	2		✓	✓	✓	✓	✓	✓	
SP1-C	grab	SS	-	4/30/21	1217	2		✓	✓	✓	✓	✓	✓	
SP2-A	grab	SS	-	4/30/21	1415	3		✓	✓	✓	✓	✓	✓	
SP2-B	grab	SS	-	4/30/21	1422	4		✓	✓	✓	✓	✓	✓	
SP2-C	grab	SS	-	4/30/21	1436	4		✓	✓	✓	✓	✓	✓	
SP3-A	grab	SS	-	4/30/21	1449	4		✓	✓	✓	✓	✓	✓	
SP3-B	grab	SS	-	4/30/21	1506	4		✓	✓	✓	✓	✓	✓	
SP3-C	grab	SS	-	4/30/21	1511	4		✓	✓	✓	✓	✓	✓	
Trip Blank	-	OT2	-			1				✓				x

Matrix:  
S - Soil AIR - Air F - Filter  
GW - Groundwater B - Blossay  
WW - Wastewater  
RW - Drinking Water  
IT - Other OT1 = Distilled Water  
OT2 = Lab Provided Water

Remarks: will email analytical requests ASAP.

9873 0087 4119

Samples returned via:  
UPS ☐ FedEx ☐ Courier ☐

Tracking #

Invoice  
Custom  
Phone  
SAT De

Sample Receipt Checklist

COC Seal Present/Intact: ☒ N ☐ If Applicable  
COC Signed/Accurate: ☒ N ☐ VOA Zero Headspace: ☒ N ☐  
Bottles arrive intact: ☒ N ☐ Pres. Correct/Check: ☒ N ☐  
Correct bottles used: ☒ N ☐  
Sufficient volume sent: ☒ N ☐  
RAD Screen <0.5 mR/hr: ☒ N ☐

Relinquished by: (Signature)

Date: 5/3/21 Time: 15:30

Received by: (Signature)

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Relinquished by: (Signature)

Date: Time:

Received for lab by: (Signature)

Temp: 14 °C Bottles Received: 30

If preservation required by Logix: Date/Time

Date: 5/4/21 Time: 1200

05-031

Condition:  
NCF / OK

NV  
5/11/21

-01  
-02  
-03  
-04  
-05  
-06

R3/R4/RX/EX

L1347655 MSBAHROR re-log

Please re-log the following as RX due 05/18. transfer TS.

- L1347655-02 (SP1-B): CR6IC,TS.
- L1347655-03 (SP1-C): TCLP BAICP.
- L1347655-04 (SP2-ABC): CR6IC,TS.

Time estimate: oh      Time spent: oh

Members

 Brian Ford

Time estimate: oh      Time spent: oh

- L1347655-02 (SP1-B): CR6IC,TS.
- L1347655-03 (SP1-C): TCLP BAICP.
- L1347655-04 (SP2-ABC): CR6IC,TS.

Time estimate: oh      Time spent: oh

Members

 Brian Ford

Time estimate: oh      Time spent: oh

Members

 Brian Ford

# DRAFT

---

12) Sample Date 4/29/21 (#L1352279)



**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1352279  
Samples Received: 05/01/2021  
Project Number: NORTH STAR  
Description: North Star Casteel

Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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DRAFT

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<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc

# SAMPLE SUMMARY

DRAFT

## S18-0 L1352279-01 Solid

Collected by  
Jon White

Collected date/time  
04/29/21 09:27

Received date/time  
05/01/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1668084	1	05/11/21 10:31	05/11/21 10:40	JAV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1670442	2	05/13/21 22:40	05/17/21 14:30	CAG	Mt. Juliet, TN

## S25-2 L1352279-02 Solid

Collected by  
Jon White

Collected date/time  
04/29/21 16:57

Received date/time  
05/01/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1671724	1	05/17/21 09:53	05/17/21 10:06	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1670442	20	05/13/21 22:40	05/17/21 14:57	CAG	Mt. Juliet, TN

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S18-0

Collected date/time: 04/29/21 09:27

## SAMPLE RESULTS - 01

L1352279

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.9		1	05/11/2021 10:40	<a href="#">WG1668084</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	39.0		9.54	2	05/17/2021 14:30	<a href="#">WG1670442</a>
Residual Range Organics (RRO)	247		23.8	2	05/17/2021 14:30	<a href="#">WG1670442</a>
(S) o-Terphenyl	55.6		18.0-148		05/17/2021 14:30	<a href="#">WG1670442</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S25-2

Collected date/time: 04/29/21 16:57

## SAMPLE RESULTS - 02

L1352279

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.3		1	05/17/2021 10:06	<a href="#">WG1671724</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	639		83.1	20	05/17/2021 14:57	<a href="#">WG1670442</a>
Residual Range Organics (RRO)	3300		208	20	05/17/2021 14:57	<a href="#">WG1670442</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		05/17/2021 14:57	<a href="#">WG1670442</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3653262-1 05/11/21 10:40

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

L1350276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1350276-01 05/11/21 10:40 • (DUP) R3653262-3 05/11/21 10:40

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	86.3	85.5	1	0.872		10

Laboratory Control Sample (LCS)

(LCS) R3653262-2 05/11/21 10:40

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3655646-1 05/17/21 10:06

Analyte	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
	%		%	%
Total Solids	0.00300			

Laboratory Control Sample (LCS)

(LCS) R3655646-2 05/17/21 10:06

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3654422-2 05/14/21 03:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	55.4			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3654422-1 05/14/21 03:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	32.8	65.6	50.0-150	
(S) o-Terphenyl			35.6	18.0-148	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

## Qualifier Description

J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
----	---

# ACCREDITATIONS & LOCATIONS

DRAFT

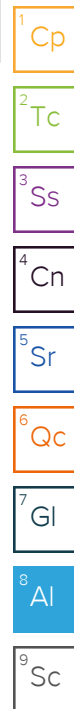
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1352279

DATE/TIME:

05/18/21 18:41

PAGE:

11 of 14

<b>Company Name/Address:</b> <b>Martin S. Burck Assoc.-Hood River, OR</b> 200 N. Wasco Ct Hood River, OR 97031				<b>Billing Information:</b> Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				<b>Analysis / Container / Preservative</b> As, Cd, Cr, Pb 6020 8ozClr-NoPres Cr6 7199 4ozClr-NoPres NWTPHDX NOSGT 8ozClr-NoPres PAHs 8270ESIM 8ozClr-NoPres VOCs 8260D 40mLmb/MeOH10ml/Syr NwTPH-HClD Total As, Cd, Pb Total As, Cr Hold				<b>Chain of Custody</b> Page 1 of 2  <b>D063</b> <small>Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions located at: <a href="https://info.paceanalytical.com/submit/pas-et-conditions-terms.pdf">https://info.paceanalytical.com/submit/pas-et-conditions-terms.pdf</a></small> SDG # <u>L1350377</u> <b>C057</b> <u>L1352279</u> Account: <b>MSBAHROR</b> Template: <b>1186091</b> Prelogin: <b>P842230</b> PM: 110 - Brian Ford RB: Shipped Via:					
<b>Report to:</b> <b>Jon White</b>				<b>Email To:</b> msba@msbaenvironmental.com; jwhite@msbae													
<b>Project Description:</b> North Star Casteel				<b>City/State</b> Collected: <b>Vancouver, WA</b>		<b>Please Circle:</b> PT MT CT ET											
<b>Phone:</b> 541-387-4422				<b>Client Project #</b> <b>North Star</b>		<b>Lab Project #</b> <b>MSBAHROR-NSTARCASTEE</b>											
<b>Collected by (print):</b> <b>Jon White</b>				<b>Site/Facility ID #</b>		<b>P.O. #</b> <b>North Star</b>											
<b>Collected by (signature):</b> 				<b>Rush? (Lab MUST Be Notified)</b> <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		<b>Quote #</b>											
<b>Immediately</b> <b>Packed on Ice</b> N <input type="checkbox"/> Y <input checked="" type="checkbox"/>						<b>Date Results Needed</b>				<b>No. of</b> <b>Ctr's</b>							
<b>Sample ID</b>				<b>Comp/Grab</b>	<b>Matrix *</b>	<b>Depth</b>	<b>Date</b>	<b>Time</b>									
SB-12				Grab	SS	12	4/29/21	15:05									
S18-0					SS	0		09:27	3								
S19-0					SS	0		10:03	3								
S20-9					SS	9		12:13	2								
S20-9 Dup					SS	9		12:13	2								
S21-9					SS	9		12:25	4								
S22-9					SS	9		12:33	3								
S23-1					SS	1		15:21	3								
S24-1					SS	1		15:35	3								
S25-1.5					SS	1.5		16:22	3								
<b>Matrix:</b> S - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater RW - Drinking Water JT - Other				<b>Remarks:</b> MSBA will email analytical reports										<b>pH</b> _____ <b>Temp</b> _____ <b>Flow</b> _____ <b>Other</b> _____		<b>Sample Receipt Checklist</b> COC Seal Present/Intact: <input type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Computer: <input type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input type="checkbox"/> Y <input type="checkbox"/> N If applicable: VOC Zero Headpace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mS/hr: <input type="checkbox"/> Y <input type="checkbox"/> N	
<b>Samples returned via:</b> UPS FedEx Courier				<b>Tracking #</b> 9463 1928 2551													
<b>Relinquished by: (Signature)</b> 				<b>Date:</b> 4/30/21	<b>Time:</b> 15:30	<b>Received by: (Signature)</b> 				<b>Trip Blank Received:</b> Yes/No NCL/MeOH TBK							
<b>Relinquished by: (Signature)</b> 				<b>Date:</b>	<b>Time:</b>	<b>Received by: (Signature)</b> 				<b>Temp:</b> °C <b>Bottles Received:</b>				<b>If preservation required by LogIn: Date/Time:</b>			
<b>Relinquished by: (Signature)</b> 				<b>Date:</b>	<b>Time:</b>	<b>Received for lab by: (Signature)</b> 				<b>Date:</b> <b>Time:</b>				<b>Hold:</b>	<b>Condition:</b> NCL / OK		



Company Name/Address:

Martin S. Burck Assoc.-Hood River, OR

200 N. Wasco Ct.

Hood River, OR 97031

Billing Information:

Accounts Payable

200 N. Wasco Ct.

Hood River, OR 97031

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody

Page 2 of 2

Report to:  
Jon White

Email To:

msba@msbaenvironmental.com; jwhite@msbae

Project Description:  
North Star CasteelCity/State  
Collected:

Vancouver, WA

Please Circle:  
PT MT CT ET

Phone: 541-387-4422

Client Project #

North Star

Lab Project #

MSBAHROR-NSTARCASTEE

Collected by (print):

Jon White

Site/Facility ID #

P.O. #

North Star

Collected by (signature):

Josh Owen for Jon White

Rush? (Lab MUST Be Notified)

Same Day ☒ Five Day  
 Next Day ☐ 5 Day (Rad Only)  
 Two Day ☐ 10 Day (Rad Only)  
 Three Day ☐

Date Results Needed

No.  
of  
Cntrs

Immediately

Packed on ice: N ☐ Y ☒

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

Cntrs

As, Cd, Cr, Pb 6070 8oz Clr-NoPres

Cr6 7199 4oz Clr-NoPres

NWTPHDX NOSGT 8oz Clr-NoPres

PAHs 8270ESIM 8oz Clr-NoPres

VOCs 8260D 40ml/Amb/MeOH10ml/Syr

NWTPH-HCID

Total As, Cd, Cr, Pb

Hold

Remarks

Sample # (Lab only)

S25-2

Grab

SS

2

4/29/21

16:57

3

S26-2.5

1

SS

2.5

17:42

3

S26-2.5 Dup

1

SS

2.5

17:42

3

S27-2.5

1

SS

2.5

17:49

3

S28-B

2

SS

B

18:00

3

EB-3

2

OT

11:42

11

Trip Blank

1

OT

2

\* Matrix:

SS - Soil AIR - Air F - Filter

GW - Groundwater B - Bioassay

WW - WasteWater

OW - Drinking Water

OT - Other

Blank (equipment trip)

Remarks:

MSBA will email analytical requests

pH

Temp

Flow

Other

Samples returned via:

UPS FedEx Courier

Tracking #

Relinquished by: (Signature)

Josh Owen

Date:

4/30/21

Time:

15:30

Received by: (Signature)

Trip Blank Received: Yes/No

HCL / MeOH

TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C

Bottles Received:

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date:

Time:

Hold:

Condition:  
NCF / OK

Pace Analytical

L1352279

12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody  
 constitutes acknowledgment and acceptance of the  
 Pace Terms and Conditions found at:  
<http://www.paceanalytical.com/pdf/standard-terms.pdf>

SDG: L1350377

Table #

Accession: MSBAHROR

Template: T186091

Prelogin: P842230

PM: 110 - Brian Ford

PB:

Shipped Via:

Remarks

Sample # (Lab only)

-02

**L1350377 MSBAHROR R2 short hold**

R1/R2

Please log the following as R2 due 05/14. Goes out of hold today. Add to L1350377.

L1350377-01 (S18-0): NWTPHDXNOSGT.  
S25-2 (hold#05-097): NWTPHDXNOSGT,TS.

Time estimate:	oh	Time spent:	oh
----------------	----	-------------	----

**Members**



Brian Ford

# DRAFT

---

13) Sample Date 5/26/21 (#L1359456)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1359456  
Samples Received: 05/28/2021  
Project Number: NORTHSTAR  
Description: North Star Casteel  
Site: NORTHSTAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
05/26/21 14:05

Received date/time  
05/28/21 09:00

## S1-2.5 L1359456-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681336	1	06/02/21 14:34	06/02/21 14:43	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680018	1	05/30/21 01:30	06/04/21 02:24	CAG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680018	1	05/30/21 01:30	06/11/21 11:34	JDG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 14:31

Received date/time  
05/28/21 09:00

## S2-2.5 L1359456-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681336	1	06/02/21 14:34	06/02/21 14:43	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1681985	1	06/03/21 10:04	06/03/21 16:06	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 11:52

Received date/time  
05/28/21 09:00

## S15-1 L1359456-06 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681336	1	06/02/21 14:34	06/02/21 14:43	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680479	1	06/01/21 19:09	06/02/21 05:22	AMG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 09:50

Received date/time  
05/28/21 09:00

## S19-1 L1359456-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681336	1	06/02/21 14:34	06/02/21 14:43	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1680447	20	06/01/21 07:17	06/02/21 16:11	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1680447	5	06/01/21 07:17	06/02/21 02:18	LAT	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680018	5	05/30/21 01:30	06/05/21 00:23	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 12:58

Received date/time  
05/28/21 09:00

## S25-2.5 L1359456-09 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681336	1	06/02/21 14:34	06/02/21 14:43	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680019	10	05/30/21 01:37	06/03/21 19:26	TJD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680019	50	05/30/21 01:37	06/03/21 22:55	JDG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 09:05

Received date/time  
05/28/21 09:00

## S39-2.5 L1359456-10 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681337	1	06/02/21 14:20	06/02/21 14:30	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1680447	5	06/01/21 07:17	06/02/21 02:21	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 08:45

Received date/time  
05/28/21 09:00

## UST-H2O L1359456-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1682005	1	06/04/21 09:46	06/06/21 00:49	SD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681008	1	06/02/21 17:03	06/02/21 22:16	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1682850	1	06/05/21 16:32	06/05/21 16:32	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1682788	1	06/04/21 16:04	06/04/21 16:04	DWR	Mt. Juliet, TN

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTHSTAR

SDG:

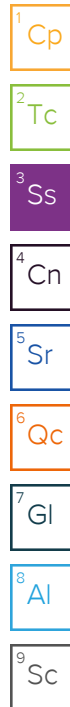
L1359456

DATE/TIME:

06/11/21 16:17

PAGE:

3 of 41



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
05/26/21 08:45

Received date/time  
05/28/21 09:00

## UST-H20 L1359456-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1681265	1	06/02/21 08:38	06/03/21 07:41	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680191	1	05/31/21 09:56	05/31/21 17:59	AAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 08:22

Received date/time  
05/28/21 09:00

## EB-5 L1359456-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1681008	1	06/02/21 17:03	06/02/21 22:19	LD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1681265	1	06/02/21 08:38	06/03/21 16:14	WCR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680191	1	05/31/21 09:56	05/31/21 18:16	AAT	Mt. Juliet, TN

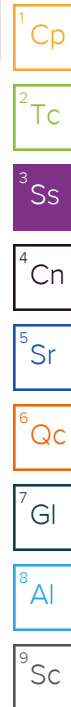
Collected by  
Jon White

Collected date/time  
05/26/21 00:00

Received date/time  
05/28/21 09:00

## TRIP BLANK L1359456-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1682788	1	06/04/21 11:57	06/04/21 11:57	DWR	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S1-2.5

Collected date/time: 05/26/21 14:05

## SAMPLE RESULTS - 03

L1359456

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.5		1	06/02/2021 14:43	<a href="#">WG1681336</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	200		1.42	4.28	1	06/11/2021 11:34	<a href="#">WG1680018</a>
Residual Range Organics (RRO)	84.9		3.56	10.7	1	06/04/2021 02:24	<a href="#">WG1680018</a>
(S) o-Terphenyl	87.6			18.0-148		06/04/2021 02:24	<a href="#">WG1680018</a>
(S) o-Terphenyl	54.5			18.0-148		06/11/2021 11:34	<a href="#">WG1680018</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.6		1	06/02/2021 14:43	<a href="#">WG1681336</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00444	<a href="#">J</a>	0.00248	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Acenaphthene	U		0.00226	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Acenaphthylene	0.00373	<a href="#">J J3</a>	0.00233	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Benzo(a)anthracene	0.0242	<a href="#">J3 J5</a>	0.00187	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Benzo(a)pyrene	0.0347	<a href="#">J3 J5</a>	0.00193	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Benzo(b)fluoranthene	0.0508	<a href="#">J3 J5</a>	0.00165	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Benzo(g,h,i)perylene	0.0485	<a href="#">J3 J5</a>	0.00191	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Benzo(k)fluoranthene	0.0166	<a href="#">J3 J5</a>	0.00232	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Chrysene	0.0281	<a href="#">J3 J5</a>	0.00251	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Dibenz(a,h)anthracene	0.00690	<a href="#">J3</a>	0.00186	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Fluoranthene	0.0356	<a href="#">J3 J5</a>	0.00245	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Fluorene	U		0.00221	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Indeno(1,2,3-cd)pyrene	0.0404	<a href="#">J3 J5</a>	0.00195	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Naphthalene	0.0146	<a href="#">J J3</a>	0.00441	0.0216	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Phenanthrene	0.0284		0.00249	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
Pyrene	0.0379	<a href="#">J3 J5</a>	0.00216	0.00648	1	06/03/2021 16:06	<a href="#">WG1681985</a>
1-Methylnaphthalene	0.00639	<a href="#">J</a>	0.00485	0.0216	1	06/03/2021 16:06	<a href="#">WG1681985</a>
2-Methylnaphthalene	0.00836	<a href="#">J</a>	0.00461	0.0216	1	06/03/2021 16:06	<a href="#">WG1681985</a>
2-Chloronaphthalene	U		0.00503	0.0216	1	06/03/2021 16:06	<a href="#">WG1681985</a>
(S) Nitrobenzene-d5	92.6			14.0-149		06/03/2021 16:06	<a href="#">WG1681985</a>
(S) 2-Fluorobiphenyl	92.8			34.0-125		06/03/2021 16:06	<a href="#">WG1681985</a>
(S) p-Terphenyl-d14	89.0			23.0-120		06/03/2021 16:06	<a href="#">WG1681985</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.9		1	06/02/2021 14:43	<a href="#">WG1681336</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	U		0.00240	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Acenaphthene	U		0.00218	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Acenaphthylene	U		0.00225	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Benzo(a)anthracene	U		0.00180	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Benzo(a)pyrene	0.00384	J	0.00187	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Benzo(b)fluoranthene	0.00587	J	0.00159	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Benzo(g,h,i)perylene	0.00606	J	0.00185	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Benzo(k)fluoranthene	U		0.00224	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Chrysene	U		0.00242	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Dibenz(a,h)anthracene	U		0.00179	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Fluoranthene	0.00589	J	0.00237	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Fluorene	U		0.00214	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Indeno(1,2,3-cd)pyrene	0.00549	J	0.00189	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Naphthalene	U		0.00425	0.0208	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Phenanthrene	0.00250	J	0.00241	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
Pyrene	0.00527	J	0.00208	0.00625	1	06/02/2021 05:22	<a href="#">WG1680479</a>
1-Methylnaphthalene	U		0.00468	0.0208	1	06/02/2021 05:22	<a href="#">WG1680479</a>
2-Methylnaphthalene	U		0.00445	0.0208	1	06/02/2021 05:22	<a href="#">WG1680479</a>
2-Chloronaphthalene	U		0.00486	0.0208	1	06/02/2021 05:22	<a href="#">WG1680479</a>
(S) Nitrobenzene-d5	89.7			14.0-149		06/02/2021 05:22	<a href="#">WG1680479</a>
(S) 2-Fluorobiphenyl	71.5			34.0-125		06/02/2021 05:22	<a href="#">WG1680479</a>
(S) p-Terphenyl-d14	101			23.0-120		06/02/2021 05:22	<a href="#">WG1680479</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S19-1

Collected date/time: 05/26/21 09:50

SAMPLE RESULTS - 07

L1359456

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.4		1	06/02/2021 14:43	<a href="#">WG1681336</a>

1 Cp

2 Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.12		0.114	1.14	5	06/02/2021 02:18	<a href="#">WG1680447</a>
Cadmium	1.04	J	0.0979	1.14	5	06/02/2021 02:18	<a href="#">WG1680447</a>
Chromium	27.5		0.339	5.72	5	06/02/2021 02:18	<a href="#">WG1680447</a>
Lead	163		0.453	9.16	20	06/02/2021 16:11	<a href="#">WG1680447</a>

3 Ss

4 Cn

5 Sr

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	26.9	J5	7.61	22.9	5	06/05/2021 00:23	<a href="#">WG1680018</a>
Residual Range Organics (RRO)	124		19.0	57.2	5	06/05/2021 00:23	<a href="#">WG1680018</a>
(S) o-Terphenyl	83.9			18.0-148		06/05/2021 00:23	<a href="#">WG1680018</a>

6 Qc

7 Gl

8 Al

9 Sc

S25-2.5

Collected date/time: 05/26/21 12:58

## SAMPLE RESULTS - 09

L1359456

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.0		1	06/02/2021 14:43	<a href="#">WG1681336</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	847		14.4	43.5	10	06/03/2021 19:26	<a href="#">WG1680019</a>
Residual Range Organics (RRO)	4830		180	543	50	06/03/2021 22:55	<a href="#">WG1680019</a>
(S) o-Terphenyl	0.000	<a href="#">J2</a>		18.0-148		06/03/2021 19:26	<a href="#">WG1680019</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>		18.0-148		06/03/2021 22:55	<a href="#">WG1680019</a>

## Sample Narrative:

L1359456-09 WG1680019: Surrogate failure due to matrix interference

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



S39-2.5

Collected date/time: 05/26/21 09:05

## SAMPLE RESULTS - 10

L1359456

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.7		1	06/02/2021 14:30	<a href="#">WG1681337</a>

1 Cp

2 Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.29		0.119	1.19	5	06/02/2021 02:21	<a href="#">WG1680447</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	U		0.100	0.200	1	06/06/2021 00:49	<a href="#">WG1682005</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	0.357	J	0.180	2.00	1	06/02/2021 22:16	<a href="#">WG1681008</a>
Barium	26.1		0.381	2.00	1	06/02/2021 22:16	<a href="#">WG1681008</a>
Cadmium	0.215	J	0.150	1.00	1	06/02/2021 22:16	<a href="#">WG1681008</a>
Chromium	2.97		1.24	2.00	1	06/02/2021 22:16	<a href="#">WG1681008</a>
Lead	5.57		0.849	2.00	1	06/02/2021 22:16	<a href="#">WG1681008</a>
Selenium	U		0.300	2.00	1	06/02/2021 22:16	<a href="#">WG1681008</a>
Silver	U		0.0700	2.00	1	06/02/2021 22:16	<a href="#">WG1681008</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	06/05/2021 16:32	<a href="#">WG1682850</a>
(S) <i>α,α</i> -Trifluorotoluene(FID)	99.6			78.0-120		06/05/2021 16:32	<a href="#">WG1682850</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		0.548	10.0	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Acrylonitrile	U		0.0760	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Acrolein	U		0.758	50.0	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Benzene	U		0.0160	0.0400	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Bromobenzene	U		0.0420	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Bromodichloromethane	U		0.0315	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Bromoform	U		0.239	1.00	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Bromomethane	U		0.148	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
n-Butylbenzene	U	C3	0.153	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
sec-Butylbenzene	U		0.101	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
tert-Butylbenzene	U		0.0620	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Carbon disulfide	U		0.162	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Carbon tetrachloride	U		0.0432	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Chlorobenzene	U		0.0229	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Chlorodibromomethane	U		0.0180	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Chloroethane	U		0.0432	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Chloroform	U		0.0166	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Chloromethane	U		0.0556	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
2-Chlorotoluene	U		0.0368	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
4-Chlorotoluene	U		0.0452	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2-Dibromoethane	U		0.0210	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Dibromomethane	U		0.0400	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2-Dichlorobenzene	U		0.0580	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,3-Dichlorobenzene	U		0.0680	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,4-Dichlorobenzene	U		0.0788	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Dichlorodifluoromethane	U		0.0327	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1-Dichloroethane	U		0.0230	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2-Dichloroethane	U		0.0190	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1-Dichloroethene	U		0.0200	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
cis-1,2-Dichloroethene	U		0.0276	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
trans-1,2-Dichloroethene	U		0.0572	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2-Dichloropropane	U		0.0508	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1-Dichloropropene	U		0.0280	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,3-Dichloropropane	U		0.0700	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
cis-1,3-Dichloropropene	U		0.0271	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
trans-1,3-Dichloropropene	U		0.0612	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
2,2-Dichloropropane	U		0.0317	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Di-isopropyl ether	U	<a href="#">C4</a>	0.0140	0.0400	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Ethylbenzene	U		0.0212	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Hexachloro-1,3-butadiene	U		0.508	1.00	1	06/04/2021 16:04	<a href="#">WG1682788</a>
2-Hexanone	U		0.400	1.00	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Isopropylbenzene	U		0.0345	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
p-Isopropyltoluene	U		0.0932	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
2-Butanone (MEK)	U		0.500	1.00	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Methylene Chloride	U		0.265	1.00	1	06/04/2021 16:04	<a href="#">WG1682788</a>
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Methyl tert-butyl ether	U		0.0118	0.0400	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Naphthalene	U		0.124	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
n-Propylbenzene	U		0.0472	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Styrene	U		0.109	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Tetrachloroethene	U		0.0280	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Toluene	U		0.0500	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2,3-Trichlorobenzene	U		0.0250	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2,4-Trichlorobenzene	U		0.193	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,1,2-Trichloroethane	U		0.0353	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Trichloroethene	U		0.0160	0.0400	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Trichlorofluoromethane	U		0.0200	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2,3-Trichloropropane	U		0.204	0.500	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Vinyl chloride	U		0.0273	0.100	1	06/04/2021 16:04	<a href="#">WG1682788</a>
Xylenes, Total	U		0.191	0.260	1	06/04/2021 16:04	<a href="#">WG1682788</a>
(S) Toluene-d8	98.8			75.0-131		06/04/2021 16:04	<a href="#">WG1682788</a>
(S) 4-Bromofluorobenzene	117			67.0-138		06/04/2021 16:04	<a href="#">WG1682788</a>
(S) 1,2-Dichloroethane-d4	112			70.0-130		06/04/2021 16:04	<a href="#">WG1682788</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	5330		33.3	100	1	06/03/2021 07:41	<a href="#">WG1681265</a>
Residual Range Organics (RRO)	4290		83.3	250	1	06/03/2021 07:41	<a href="#">WG1681265</a>
(S) o-Terphenyl	79.0			31.0-160		06/03/2021 07:41	<a href="#">WG1681265</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Acenaphthene	U		0.0190	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Acenaphthylene	U		0.0171	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Benzo(a)anthracene	U		0.0203	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzo(a)pyrene	U		0.0184	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Chrysene	U		0.0179	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Fluoranthene	U		0.0270	0.100	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Fluorene	U		0.0169	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Naphthalene	U		0.0917	0.250	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Phenanthrene	U		0.0180	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
Pyrene	U		0.0169	0.0500	1	05/31/2021 17:59	<a href="#">WG1680191</a>
1-Methylnaphthalene	U		0.0687	0.250	1	05/31/2021 17:59	<a href="#">WG1680191</a>
2-Methylnaphthalene	U		0.0674	0.250	1	05/31/2021 17:59	<a href="#">WG1680191</a>
2-Chloronaphthalene	U		0.0682	0.250	1	05/31/2021 17:59	<a href="#">WG1680191</a>
(S) Nitrobenzene-d5	120			31.0-160		05/31/2021 17:59	<a href="#">WG1680191</a>
(S) 2-Fluorobiphenyl	101			48.0-148		05/31/2021 17:59	<a href="#">WG1680191</a>
(S) p-Terphenyl-d14	117			37.0-146		05/31/2021 17:59	<a href="#">WG1680191</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		0.180	2.00	1	06/02/2021 22:19	<a href="#">WG1681008</a>
Cadmium	U		0.150	1.00	1	06/02/2021 22:19	<a href="#">WG1681008</a>
Chromium	U		1.24	2.00	1	06/02/2021 22:19	<a href="#">WG1681008</a>
Lead	U		0.849	2.00	1	06/02/2021 22:19	<a href="#">WG1681008</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	47.2	J	33.3	100	1	06/03/2021 16:14	<a href="#">WG1681265</a>
Residual Range Organics (RRO)	U		83.3	250	1	06/03/2021 16:14	<a href="#">WG1681265</a>
(S) o-Terphenyl	93.0			31.0-160		06/03/2021 16:14	<a href="#">WG1681265</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Acenaphthene	U		0.0190	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Acenaphthylene	U		0.0171	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Benzo(a)anthracene	U		0.0203	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Benzo(a)pyrene	U		0.0184	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Benzo(b)fluoranthene	U		0.0168	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Benzo(k)fluoranthene	U		0.0202	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Chrysene	U		0.0179	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Fluoranthene	U		0.0270	0.100	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Fluorene	U		0.0169	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Naphthalene	U		0.0917	0.250	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Phenanthrene	U		0.0180	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
Pyrene	U		0.0169	0.0500	1	05/31/2021 18:16	<a href="#">WG1680191</a>
1-Methylnaphthalene	U		0.0687	0.250	1	05/31/2021 18:16	<a href="#">WG1680191</a>
2-Methylnaphthalene	U		0.0674	0.250	1	05/31/2021 18:16	<a href="#">WG1680191</a>
2-Chloronaphthalene	U		0.0682	0.250	1	05/31/2021 18:16	<a href="#">WG1680191</a>
(S) Nitrobenzene-d5	122			31.0-160		05/31/2021 18:16	<a href="#">WG1680191</a>
(S) 2-Fluorobiphenyl	99.5			48.0-148		05/31/2021 18:16	<a href="#">WG1680191</a>
(S) p-Terphenyl-d14	123			37.0-146		05/31/2021 18:16	<a href="#">WG1680191</a>

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## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	2.44	J	0.548	10.0	1	06/04/2021 11:57	WG1682788
Acrylonitrile	U		0.0760	0.500	1	06/04/2021 11:57	WG1682788
Acrolein	U		0.758	50.0	1	06/04/2021 11:57	WG1682788
Benzene	U		0.0160	0.0400	1	06/04/2021 11:57	WG1682788
Bromobenzene	U		0.0420	0.500	1	06/04/2021 11:57	WG1682788
Bromodichloromethane	U		0.0315	0.100	1	06/04/2021 11:57	WG1682788
Bromoform	U		0.239	1.00	1	06/04/2021 11:57	WG1682788
Bromomethane	U		0.148	0.500	1	06/04/2021 11:57	WG1682788
n-Butylbenzene	U	C3	0.153	0.500	1	06/04/2021 11:57	WG1682788
sec-Butylbenzene	U		0.101	0.500	1	06/04/2021 11:57	WG1682788
tert-Butylbenzene	U		0.0620	0.200	1	06/04/2021 11:57	WG1682788
Carbon disulfide	U		0.162	0.500	1	06/04/2021 11:57	WG1682788
Carbon tetrachloride	U		0.0432	0.200	1	06/04/2021 11:57	WG1682788
Chlorobenzene	U		0.0229	0.100	1	06/04/2021 11:57	WG1682788
Chlorodibromomethane	U		0.0180	0.100	1	06/04/2021 11:57	WG1682788
Chloroethane	U		0.0432	0.200	1	06/04/2021 11:57	WG1682788
Chloroform	U		0.0166	0.100	1	06/04/2021 11:57	WG1682788
Chloromethane	U		0.0556	0.500	1	06/04/2021 11:57	WG1682788
2-Chlorotoluene	U		0.0368	0.100	1	06/04/2021 11:57	WG1682788
4-Chlorotoluene	U		0.0452	0.200	1	06/04/2021 11:57	WG1682788
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	06/04/2021 11:57	WG1682788
1,2-Dibromoethane	U		0.0210	0.100	1	06/04/2021 11:57	WG1682788
Dibromomethane	U		0.0400	0.200	1	06/04/2021 11:57	WG1682788
1,2-Dichlorobenzene	U		0.0580	0.200	1	06/04/2021 11:57	WG1682788
1,3-Dichlorobenzene	U		0.0680	0.200	1	06/04/2021 11:57	WG1682788
1,4-Dichlorobenzene	U		0.0788	0.200	1	06/04/2021 11:57	WG1682788
Dichlorodifluoromethane	U		0.0327	0.100	1	06/04/2021 11:57	WG1682788
1,1-Dichloroethane	U		0.0230	0.100	1	06/04/2021 11:57	WG1682788
1,2-Dichloroethane	U		0.0190	0.100	1	06/04/2021 11:57	WG1682788
1,1-Dichloroethene	U		0.0200	0.100	1	06/04/2021 11:57	WG1682788
cis-1,2-Dichloroethene	U		0.0276	0.100	1	06/04/2021 11:57	WG1682788
trans-1,2-Dichloroethene	U		0.0572	0.200	1	06/04/2021 11:57	WG1682788
1,2-Dichloropropane	U		0.0508	0.200	1	06/04/2021 11:57	WG1682788
1,1-Dichloropropene	U		0.0280	0.100	1	06/04/2021 11:57	WG1682788
1,3-Dichloropropane	U		0.0700	0.200	1	06/04/2021 11:57	WG1682788
cis-1,3-Dichloropropene	U		0.0271	0.100	1	06/04/2021 11:57	WG1682788
trans-1,3-Dichloropropene	U		0.0612	0.200	1	06/04/2021 11:57	WG1682788
2,2-Dichloropropane	U		0.0317	0.100	1	06/04/2021 11:57	WG1682788
Di-isopropyl ether	U	C4	0.0140	0.0400	1	06/04/2021 11:57	WG1682788
Ethylbenzene	U		0.0212	0.100	1	06/04/2021 11:57	WG1682788
Hexachloro-1,3-butadiene	U		0.508	1.00	1	06/04/2021 11:57	WG1682788
2-Hexanone	U		0.400	1.00	1	06/04/2021 11:57	WG1682788
Isopropylbenzene	U		0.0345	0.100	1	06/04/2021 11:57	WG1682788
p-Isopropyltoluene	U		0.0932	0.200	1	06/04/2021 11:57	WG1682788
2-Butanone (MEK)	U		0.500	1.00	1	06/04/2021 11:57	WG1682788
Methylene Chloride	U		0.265	1.00	1	06/04/2021 11:57	WG1682788
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	06/04/2021 11:57	WG1682788
Methyl tert-butyl ether	U		0.0118	0.0400	1	06/04/2021 11:57	WG1682788
Naphthalene	U		0.124	0.500	1	06/04/2021 11:57	WG1682788
n-Propylbenzene	U		0.0472	0.200	1	06/04/2021 11:57	WG1682788
Styrene	U		0.109	0.500	1	06/04/2021 11:57	WG1682788
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	06/04/2021 11:57	WG1682788
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	06/04/2021 11:57	WG1682788
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	06/04/2021 11:57	WG1682788
Tetrachloroethene	U		0.0280	0.100	1	06/04/2021 11:57	WG1682788
Toluene	U		0.0500	0.200	1	06/04/2021 11:57	WG1682788

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTHSTAR

SDG:

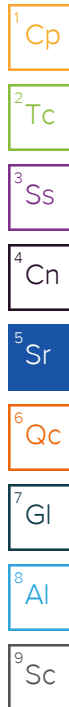
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## SAMPLE RESULTS - 13

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## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichlorobenzene	U		0.0250	0.500	1	06/04/2021 11:57	<a href="#">WG1682788</a>
1,2,4-Trichlorobenzene	U		0.193	0.500	1	06/04/2021 11:57	<a href="#">WG1682788</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	06/04/2021 11:57	<a href="#">WG1682788</a>
1,1,2-Trichloroethane	U		0.0353	0.100	1	06/04/2021 11:57	<a href="#">WG1682788</a>
Trichloroethene	U		0.0160	0.0400	1	06/04/2021 11:57	<a href="#">WG1682788</a>
Trichlorofluoromethane	U		0.0200	0.100	1	06/04/2021 11:57	<a href="#">WG1682788</a>
1,2,3-Trichloropropane	U		0.204	0.500	1	06/04/2021 11:57	<a href="#">WG1682788</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	06/04/2021 11:57	<a href="#">WG1682788</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	06/04/2021 11:57	<a href="#">WG1682788</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	06/04/2021 11:57	<a href="#">WG1682788</a>
Vinyl chloride	U		0.0273	0.100	1	06/04/2021 11:57	<a href="#">WG1682788</a>
Xylenes, Total	U		0.191	0.260	1	06/04/2021 11:57	<a href="#">WG1682788</a>
(S) Toluene-d8	98.9			75.0-131		06/04/2021 11:57	<a href="#">WG1682788</a>
(S) 4-Bromofluorobenzene	103			67.0-138		06/04/2021 11:57	<a href="#">WG1682788</a>
(S) 1,2-Dichloroethane-d4	94.0			70.0-130		06/04/2021 11:57	<a href="#">WG1682788</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

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SDG:

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Method Blank (MB)

(MB) R3662655-1 06/02/21 14:43

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1359454-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1359454-07 06/02/21 14:43 • (DUP) R3662655-3 06/02/21 14:43

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.6	92.1	1	0.585		10

Laboratory Control Sample (LCS)

(LCS) R3662655-2 06/02/21 14:43

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3662650-1 06/02/21 14:30

Analyte	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1359460-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1359460-17 06/02/21 14:30 • (DUP) R3662650-3 06/02/21 14:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	%	%		%		%
Total Solids	88.2	86.4	1	1.97		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3662650-2 06/02/21 14:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3663643-1 06/06/21 00:23

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Mercury	U		0.100	0.200

Laboratory Control Sample (LCS)

(LCS) R3663643-2 06/06/21 00:25

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Mercury	3.00	3.04	101	80.0-120	

L1359654-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359654-03 06/06/21 00:27 • (MS) R3663643-3 06/06/21 00:29 • (MSD) R3663643-4 06/06/21 00:31

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	U	3.05	3.05	102	102	1	75.0-125			0.135	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3661888-1 06/01/21 23:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Lead	U		0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3661888-2 06/01/21 23:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	87.6	87.6	80.0-120	
Cadmium	100	91.7	91.7	80.0-120	
Chromium	100	91.6	91.6	80.0-120	
Lead	100	87.0	87.0	80.0-120	

L1356535-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1356535-05 06/01/21 23:28 • (MS) R3661888-5 06/01/21 23:38 • (MSD) R3661888-6 06/01/21 23:41

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	112	1.18	97.8	99.5	86.1	87.7	5	75.0-125			1.78	20
Cadmium	112	U	105	106	93.3	94.1	5	75.0-125			0.848	20
Chromium	112	348	420	421	63.9	64.9	5	75.0-125	J6	J6	0.266	20
Lead	112	0.934	99.4	104	87.7	91.9	5	75.0-125			4.57	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3662488-1 06/02/21 20:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic	U		0.180	2.00
Barium	U		0.381	2.00
Cadmium	U		0.150	1.00
Chromium	U		1.24	2.00
Lead	U		0.849	2.00
Selenium	U		0.300	2.00
Silver	U		0.0700	2.00

Laboratory Control Sample (LCS)

(LCS) R3662488-2 06/02/21 20:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	50.0	46.8	93.7	80.0-120	
Barium	50.0	45.6	91.2	80.0-120	
Cadmium	50.0	50.8	102	80.0-120	
Chromium	50.0	50.2	100	80.0-120	
Lead	50.0	47.7	95.5	80.0-120	
Selenium	50.0	48.5	96.9	80.0-120	
Silver	50.0	46.9	93.7	80.0-120	

L1359250-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359250-01 06/02/21 20:48 • (MS) R3662488-4 06/02/21 20:54 • (MSD) R3662488-5 06/02/21 20:58

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	50.0	0.317	47.7	49.2	94.8	97.7	1	75.0-125			3.03	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3664563-2 06/05/21 08:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	99.8			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3664563-1 06/05/21 07:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4740	86.2	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			109	78.0-120	

1  
Cp

2  
Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Sc

Method Blank (MB)

(MB) R3663688-2 06/04/21 09:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		0.548	10.0
Acrylonitrile	U		0.0760	0.500
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon disulfide	U		0.162	0.500
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,2-Dichlorobenzene	U		0.0580	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100
Hexachloro-1,3-butadiene	U		0.508	1.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3663688-2 06/04/21 09:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
2-Hexanone	U		0.400	1.00
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	0.898	U	0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
Acrolein	U		0.758	50.0
(S) Toluene-d8	103			75.0-131
(S) 4-Bromofluorobenzene	103			67.0-138
(S) 1,2-Dichloroethane-d4	84.4			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3663688-1 06/04/21 07:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	20.6	82.4	10.0-160	
Acrylonitrile	25.0	20.0	80.0	45.0-153	

1  
Cp

2  
Tc

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Ss

4  
Cn

5  
Sr

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Qc

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Gl

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Al

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Sc

Laboratory Control Sample (LCS)

(LCS) R3663688-1 06/04/21 07:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Benzene	5.00	5.28	106	70.0-123	
Bromobenzene	5.00	5.22	104	73.0-121	
Bromodichloromethane	5.00	5.27	105	73.0-121	
Bromoform	5.00	5.48	110	64.0-132	
Bromomethane	5.00	4.90	98.0	56.0-147	
n-Butylbenzene	5.00	3.90	78.0	68.0-135	
sec-Butylbenzene	5.00	4.19	83.8	74.0-130	
tert-Butylbenzene	5.00	4.31	86.2	75.0-127	
Carbon disulfide	5.00	4.78	95.6	56.0-133	
Carbon tetrachloride	5.00	5.82	116	66.0-128	
Chlorobenzene	5.00	4.79	95.8	76.0-128	
Chlorodibromomethane	5.00	5.23	105	74.0-127	
Chloroethane	5.00	4.60	92.0	61.0-134	
Chloroform	5.00	5.75	115	72.0-123	
Chloromethane	5.00	4.00	80.0	51.0-138	
2-Chlorotoluene	5.00	5.10	102	75.0-124	
4-Chlorotoluene	5.00	5.03	101	75.0-124	
1,2-Dibromo-3-Chloropropane	5.00	4.99	99.8	59.0-130	
1,2-Dibromoethane	5.00	4.89	97.8	74.0-128	
Dibromomethane	5.00	4.87	97.4	75.0-122	
1,2-Dichlorobenzene	5.00	4.19	83.8	76.0-124	
1,3-Dichlorobenzene	5.00	4.68	93.6	76.0-125	
1,4-Dichlorobenzene	5.00	4.18	83.6	77.0-121	
Dichlorodifluoromethane	5.00	5.41	108	43.0-156	
1,1-Dichloroethane	5.00	4.83	96.6	70.0-127	
1,2-Dichloroethane	5.00	5.88	118	65.0-131	
1,1-Dichloroethene	5.00	4.55	91.0	65.0-131	
cis-1,2-Dichloroethene	5.00	5.56	111	73.0-125	
trans-1,2-Dichloroethene	5.00	5.34	107	71.0-125	
1,2-Dichloropropane	5.00	5.00	100	74.0-125	
1,1-Dichloropropene	5.00	5.52	110	73.0-125	
1,3-Dichloropropane	5.00	4.79	95.8	80.0-125	
cis-1,3-Dichloropropene	5.00	5.62	112	76.0-127	
trans-1,3-Dichloropropene	5.00	5.12	102	73.0-127	
2,2-Dichloropropane	5.00	5.39	108	59.0-135	
Di-isopropyl ether	5.00	3.66	73.2	60.0-136	
Ethylbenzene	5.00	4.93	98.6	74.0-126	
Hexachloro-1,3-butadiene	5.00	4.58	91.6	57.0-150	
2-Hexanone	25.0	24.1	96.4	54.0-147	
Isopropylbenzene	5.00	4.59	91.8	72.0-127	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Laboratory Control Sample (LCS)

(LCS) R3663688-1 06/04/21 07:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
p-Isopropyltoluene	5.00	4.26	85.2	72.0-133	
2-Butanone (MEK)	25.0	25.1	100	30.0-160	
Methylene Chloride	5.00	4.03	80.6	68.0-123	
4-Methyl-2-pentanone (MIBK)	25.0	21.1	84.4	56.0-143	
Methyl tert-butyl ether	5.00	4.13	82.6	66.0-132	
Naphthalene	5.00	3.99	79.8	59.0-130	
n-Propylbenzene	5.00	4.68	93.6	74.0-126	
Styrene	5.00	4.98	99.6	72.0-127	
1,1,1,2-Tetrachloroethane	5.00	4.64	92.8	74.0-129	
1,1,2,2-Tetrachloroethane	5.00	4.20	84.0	68.0-128	
Tetrachloroethene	5.00	5.10	102	70.0-136	
Toluene	5.00	4.82	96.4	75.0-121	
1,1,2-Trichlorotrifluoroethane	5.00	4.80	96.0	61.0-139	
1,2,3-Trichlorobenzene	5.00	4.07	81.4	59.0-139	
1,2,4-Trichlorobenzene	5.00	4.65	93.0	62.0-137	
1,1,1-Trichloroethane	5.00	6.01	120	69.0-126	
1,1,2-Trichloroethane	5.00	5.18	104	78.0-123	
Trichloroethene	5.00	6.27	125	76.0-126	
Trichlorofluoromethane	5.00	4.38	87.6	61.0-142	
1,2,3-Trichloropropane	5.00	5.23	105	67.0-129	
1,2,3-Trimethylbenzene	5.00	5.41	108	74.0-124	
1,2,4-Trimethylbenzene	5.00	4.64	92.8	70.0-126	
1,3,5-Trimethylbenzene	5.00	5.20	104	73.0-127	
Vinyl chloride	5.00	4.55	91.0	63.0-134	
Xylenes, Total	15.0	13.7	91.3	72.0-127	
Acrolein	25.0	30.3	121	10.0-160	
(S) Toluene-d8			100	75.0-131	
(S) 4-Bromofluorobenzene			91.8	67.0-138	
(S) 1,2-Dichloroethane-d4			107	70.0-130	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3663028-1 06/03/21 20:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	85.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3663028-2 06/03/21 20:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	46.6	93.2	50.0-150	
(S) o-Terphenyl			93.4	18.0-148	

L1359456-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359456-07 06/05/21 00:23 • (MS) R3663708-1 06/05/21 00:36 • (MSD) R3663708-2 06/05/21 00:49

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	56.0	26.9	96.6	118	125	163	5	50.0-150		J5	19.9	20
(S) o-Terphenyl					109	116		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3663029-1 06/03/21 15:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	76.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3663029-2 06/03/21 15:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	37.7	75.4	50.0-150	
(S) o-Terphenyl			79.6	18.0-148	

L1359370-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359370-06 06/03/21 17:02 • (MS) R3663029-3 06/03/21 17:15 • (MSD) R3663029-4 06/03/21 17:28

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	51.3	6.41	51.3	49.2	87.5	81.6	1	50.0-150			4.27	20
(S) o-Terphenyl					90.1	86.8		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3662792-1 06/03/21 04:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		33.3	100
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	70.0			31.0-160

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3662792-2 06/03/21 04:40 • (LCSD) R3662792-3 06/03/21 05:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	968	1050	64.5	70.0	50.0-150			8.13	20
(S) o-Terphenyl				71.0	47.3	31.0-160				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3661510-3 05/31/21 17:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	109			31.0-160
(S) 2-Fluorobiphenyl	87.5			48.0-148
(S) p-Terphenyl-d14	118			37.0-146

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3661510-1 05/31/21 17:06 • (LCSD) R3661510-2 05/31/21 17:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.76	1.72	88.0	86.0	67.0-150			2.30	20
Acenaphthene	2.00	1.86	1.82	93.0	91.0	65.0-138			2.17	20
Acenaphthylene	2.00	1.86	1.80	93.0	90.0	66.0-140			3.28	20
Benzo(a)anthracene	2.00	1.65	1.69	82.5	84.5	61.0-140			2.40	20
Benzo(a)pyrene	2.00	1.64	1.74	82.0	87.0	60.0-143			5.92	20
Benzo(b)fluoranthene	2.00	1.86	1.94	93.0	97.0	58.0-141			4.21	20
Benzo(g,h,i)perylene	2.00	1.77	1.90	88.5	95.0	52.0-153			7.08	20
Benzo(k)fluoranthene	2.00	1.77	1.89	88.5	94.5	58.0-148			6.56	20
Chrysene	2.00	1.79	1.88	89.5	94.0	64.0-144			4.90	20
Dibenz(a,h)anthracene	2.00	1.62	1.71	81.0	85.5	52.0-155			5.41	20
Fluoranthene	2.00	1.86	1.81	93.0	90.5	69.0-153			2.72	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3661510-1 05/31/21 17:06 • (LCSD) R3661510-2 05/31/21 17:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	1.89	1.82	94.5	91.0	64.0-136			3.77	20
Indeno(1,2,3-cd)pyrene	2.00	1.66	1.67	83.0	83.5	54.0-153			0.601	20
Naphthalene	2.00	1.79	1.78	89.5	89.0	61.0-137			0.560	20
Phenanthrene	2.00	1.93	1.89	96.5	94.5	62.0-137			2.09	20
Pyrene	2.00	1.93	2.02	96.5	101	60.0-142			4.56	20
1-Methylnaphthalene	2.00	1.82	1.78	91.0	89.0	66.0-142			2.22	20
2-Methylnaphthalene	2.00	1.71	1.69	85.5	84.5	62.0-136			1.18	20
2-Chloronaphthalene	2.00	1.87	1.83	93.5	91.5	64.0-140			2.16	20
(S) Nitrobenzene-d5				114	111	31.0-160				
(S) 2-Fluorobiphenyl				94.5	90.0	48.0-148				
(S) p-Terphenyl-d14				108	115	37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3662194-2 06/01/21 23:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	89.6			14.0-149
(S) 2-Fluorobiphenyl	76.1			34.0-125
(S) p-Terphenyl-d14	111			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3662194-1 06/01/21 23:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0571	71.4	50.0-126	
Acenaphthene	0.0800	0.0658	82.3	50.0-120	
Acenaphthylene	0.0800	0.0631	78.9	50.0-120	
Benzo(a)anthracene	0.0800	0.0628	78.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0642	80.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0709	88.6	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0689	86.1	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0691	86.4	49.0-125	
Chrysene	0.0800	0.0716	89.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0624	78.0	47.0-125	
Fluoranthene	0.0800	0.0696	87.0	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3662194-1 06/01/21 23:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0681	85.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0640	80.0	46.0-125	
Naphthalene	0.0800	0.0638	79.8	50.0-120	
Phenanthrene	0.0800	0.0587	73.4	47.0-120	
Pyrene	0.0800	0.0725	90.6	43.0-123	
1-Methylnaphthalene	0.0800	0.0707	88.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0663	82.9	50.0-120	
2-Chloronaphthalene	0.0800	0.0588	73.5	50.0-120	
(S) Nitrobenzene-d5			97.6	14.0-149	
(S) 2-Fluorobiphenyl			81.8	34.0-125	
(S) p-Terphenyl-d14			103	23.0-120	

L1359842-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359842-03 06/02/21 02:06 • (MS) R3662194-3 06/02/21 02:24 • (MSD) R3662194-4 06/02/21 02:42

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0886	U	0.0618	0.0650	69.8	73.4	1	10.0-145			5.07	30
Acenaphthene	0.0886	0.00803	0.0742	0.0732	74.7	73.6	1	14.0-127			1.35	27
Acenaphthylene	0.0886	U	0.0643	0.0630	72.5	71.1	1	21.0-124			1.91	25
Benzo(a)anthracene	0.0886	U	0.0624	0.0645	70.4	72.8	1	10.0-139			3.32	30
Benzo(a)pyrene	0.0886	U	0.0674	0.0677	76.0	76.4	1	10.0-141			0.492	31
Benzo(b)fluoranthene	0.0886	U	0.0716	0.0675	80.7	76.1	1	10.0-140			5.90	36
Benzo(g,h,i)perylene	0.0886	U	0.0701	0.0701	79.1	79.1	1	10.0-140			0.000	33
Benzo(k)fluoranthene	0.0886	U	0.0688	0.0723	77.6	81.6	1	10.0-137			5.02	31
Chrysene	0.0886	U	0.0708	0.0731	79.9	82.5	1	10.0-145			3.23	30
Dibenz(a,h)anthracene	0.0886	U	0.0617	0.0684	69.6	77.1	1	10.0-132			10.2	31
Fluoranthene	0.0886	U	0.0727	0.0748	82.0	84.4	1	10.0-153			2.85	33
Fluorene	0.0886	0.0218	0.0851	0.0868	71.4	73.3	1	11.0-130			1.93	29
Indeno(1,2,3-cd)pyrene	0.0886	U	0.0627	0.0602	70.8	67.9	1	10.0-137			4.15	32
Naphthalene	0.0886	0.321	0.329	0.370	8.75	55.0	1	10.0-135	J6		11.7	27
Phenanthrene	0.0886	0.0207	0.0811	0.0822	68.1	69.4	1	10.0-144			1.36	31
Pyrene	0.0886	0.00448	0.0745	0.0764	78.9	81.2	1	10.0-148			2.64	35
1-Methylnaphthalene	0.0886	0.345	0.368	0.410	26.2	73.8	1	10.0-142			10.8	28
2-Methylnaphthalene	0.0886	0.710	0.695	0.763	0.000	60.0	1	10.0-137	V		9.42	28
2-Chloronaphthalene	0.0886	U	0.0607	0.0609	68.5	68.8	1	29.0-120			0.364	24
(S) Nitrobenzene-d5					143	114		14.0-149				
(S) 2-Fluorobiphenyl					72.1	68.9		34.0-125				
(S) p-Terphenyl-d14					89.8	93.3		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3663410-2 06/03/21 15:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	86.6			14.0-149
(S) 2-Fluorobiphenyl	91.8			34.0-125
(S) p-Terphenyl-d14	93.2			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3663410-1 06/03/21 15:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0747	93.4	50.0-126	
Acenaphthene	0.0800	0.0763	95.4	50.0-120	
Acenaphthylene	0.0800	0.0753	94.1	50.0-120	
Benzo(a)anthracene	0.0800	0.0728	91.0	45.0-120	
Benzo(a)pyrene	0.0800	0.0578	72.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0647	80.9	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0634	79.3	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0671	83.9	49.0-125	
Chrysene	0.0800	0.0778	97.3	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0612	76.5	47.0-125	
Fluoranthene	0.0800	0.0794	99.3	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3663410-1 06/03/21 15:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0773	96.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0616	77.0	46.0-125	
Naphthalene	0.0800	0.0697	87.1	50.0-120	
Phenanthrene	0.0800	0.0765	95.6	47.0-120	
Pyrene	0.0800	0.0742	92.8	43.0-123	
1-Methylnaphthalene	0.0800	0.0716	89.5	51.0-121	
2-Methylnaphthalene	0.0800	0.0669	83.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0801	100	50.0-120	
(S) Nitrobenzene-d5			104	14.0-149	
(S) 2-Fluorobiphenyl			106	34.0-125	
(S) p-Terphenyl-d14			100	23.0-120	

L1359456-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359456-04 06/03/21 16:06 • (MS) R3663410-3 06/03/21 16:26 • (MSD) R3663410-4 06/03/21 16:45

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0847	0.00444	0.0854	0.0686	95.7	75.8	1	10.0-145			21.9	30
Acenaphthene	0.0847	U	0.0768	0.0691	90.7	81.6	1	14.0-127			10.5	27
Acenaphthylene	0.0847	0.00373	0.107	0.0730	122	81.8	1	21.0-124		J3	37.7	25
Benzo(a)anthracene	0.0847	0.0242	0.362	0.0850	399	71.8	1	10.0-139	J5	J3	124	30
Benzo(a)pyrene	0.0847	0.0347	0.447	0.0793	487	52.7	1	10.0-141	J5	J3	140	31
Benzo(b)fluoranthene	0.0847	0.0508	0.422	0.0965	439	54.1	1	10.0-140	J5	J3	126	36
Benzo(g,h,i)perylene	0.0847	0.0485	0.417	0.0895	435	48.5	1	10.0-140	J5	J3	129	33
Benzo(k)fluoranthene	0.0847	0.0166	0.206	0.0691	224	62.0	1	10.0-137	J5	J3	99.6	31
Chrysene	0.0847	0.0281	0.445	0.0987	492	83.4	1	10.0-145	J5	J3	127	30
Dibenz(a,h)anthracene	0.0847	0.00690	0.0891	0.0489	97.1	49.6	1	10.0-132		J3	58.2	31
Fluoranthene	0.0847	0.0356	0.517	0.108	569	85.2	1	10.0-153	J5	J3	131	33
Fluorene	0.0847	U	0.0781	0.0703	92.2	83.0	1	11.0-130			10.5	29
Indeno(1,2,3-cd)pyrene	0.0847	0.0404	0.363	0.0803	381	47.2	1	10.0-137	J5	J3	127	32
Naphthalene	0.0847	0.0146	0.113	0.0800	117	77.3	1	10.0-135		J3	34.5	27
Phenanthrene	0.0847	0.0284	0.122	0.0972	111	81.3	1	10.0-144			22.7	31
Pyrene	0.0847	0.0379	0.615	0.0985	682	71.6	1	10.0-148	J5	J3	145	35
1-Methylnaphthalene	0.0847	0.00639	0.0802	0.0735	87.2	79.3	1	10.0-142			8.71	28
2-Methylnaphthalene	0.0847	0.00836	0.0785	0.0720	82.9	75.2	1	10.0-137			8.61	28
2-Chloronaphthalene	0.0847	U	0.0794	0.0731	93.8	86.4	1	29.0-120			8.22	24
(S) Nitrobenzene-d5					99.6	90.9		14.0-149				
(S) 2-Fluorobiphenyl					99.4	89.2		34.0-125				
(S) p-Terphenyl-d14					90.8	80.3		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

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Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# ACCREDITATIONS & LOCATIONS

DRAFT

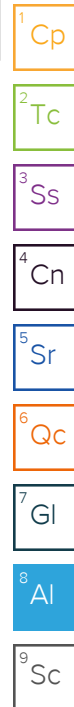
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTHSTAR

SDG:

L1359456

DATE/TIME:


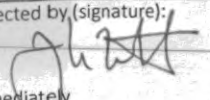
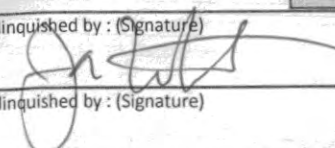
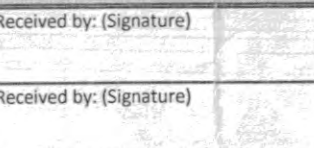
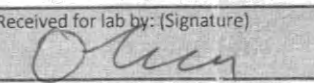
06/11/21 16:17

PAGE:

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Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>  200 N. Wasco Ct. Hood River, OR 97031						Billing Information: <b>Accounts Payable</b> 200 N. Wasco Ct. Hood River, OR 97031						Pres Chk	Analysis / Container / Preservative										Chain of Custody Page 1 of 2										
Report to: <b>Jon White</b>						Email To: msba@msbaenvironmental.com;jwhite@msbae																	Pace Analytical® 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf										
Project Description: <b>North Star Casteel</b>						City/State Collected: <b>Vancouver, WA</b>						Please Circle: <input checked="" type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET											SDG # <b>L135A956</b> <b>F163</b>										
Phone: <b>541-387-4422</b>						Client Project # <b>North Star</b>						Lab Project # <b>MSBAHROR-NSTARCASTEE</b>																Table					
Collected by (print): <b>Jon White</b>						Site/Facility ID # <b>North Star</b>						P.O. # <b>North Star</b>																Acctnum: <b>MSBAHROR</b>					
Collected by (signature): <b>Jon White</b>						Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day						Quote #  Date Results Needed																Template: <b>T186091</b>					
Immediately Packed on Ice <input type="checkbox"/> N <input checked="" type="checkbox"/> Y												No. of Cnts																Prelogin: <b>P845085</b> PM: <b>110 - Brian Ford</b>					
Sample ID						Comp/Grab		Matrix *		Depth		Date		Time												PB:							
																								Shipped Via:									
																								Remarks		Sample # (lab only)							
S1-1.5						grab		SS		1.5'		5/26/21		1342 3														-01					
S1-1.5 dup						grab		SS		1.5'		5/26/21		1342 2														-02					
S1-2.5						grab		SS		2.5'		5/26/21		1405 3														-03					
S2-2.5						grab		SS		2.5'		5/26/21		1431 2														-04					
S2-3						grab		SS		3'		5/26/21		1440 2														-05					
S15-1						grab		SS		1'		5/26/21		1152 2														-06					
S19-1						grab		SS		1'		5/26/21		0950 3														-07					
S19-2						grab		SS		2'		5/26/21		0956 2														-08					
S25-2.5						grab		SS		2.5'		5/26/21		1258 1														-09					
S39-2.5						grab		SS		2.5'		5/26/21		0905 1														-10					
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other						Remarks:						pH _____ Temp _____ Flow _____ Other _____						Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N															
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier						Tracking # <b>5016 1226 2883</b>																											
Relinquished by: (Signature) <b>Jon White</b>						Date: <b>5/27/21</b> Time: <b>15:30</b>						Received by: (Signature) <b>Olivia</b>						Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HC / MeOH TBR															
Relinquished by: (Signature)						Date: Time:						Received by: (Signature)						Temp: <b>7.1-6</b> °C Bottles Received: <b>44</b>						If preservation required by Login: Date/Time									
Relinquished by: (Signature)						Date: Time:						Received for lab by: (Signature) <b>Olivia</b>						Date: <b>5/28/21</b> Time: <b>9:00</b>						Hold: Condition: <b>NCF / OK</b>									



Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>  200 N. Wasco Ct. Hood River, OR 97031				Billing Information: Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				Pres Chk <input checked="" type="checkbox"/>		Analysis / Container / Preservative						Chain of Custody Page <u>2</u> of <u>2</u>    <small>12065 Lebanon Rd Mount Juliet, TN 37122          Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at:  <a href="https://info.pacelabs.com/hubfs/pas-standard-terms.pdf">https://info.pacelabs.com/hubfs/pas-standard-terms.pdf</a></small>							
Report to: <b>Jon White</b>				Email To: msba@msbaenvironmental.com;jwhite@msbae				No. of Cntrs		As,Cd,Cr,Pb 6020 250mlHDPE-HNO3 Cr6 3500Cr C 50mlTube/plungerPres NWTPHDX NOSGT 100ml Amb-HCl NWTPHGX 40mlAmb HCl PAHs 8270ESIM 40mlAmb-NoPres-WT VOCs 8260D LL 40mlAmb-HCl RCRA 8 Metals (Total)													
Project Description: <b>North Star Casteel</b>				City/State Collected:		Please Circle: <input checked="" type="radio"/> PT <input type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET																	
Phone: <b>541-387-4422</b>		Client Project # <b>North Star</b>		Lab Project # <b>MSBAHROR-NSTARCASTEE</b>																			
Collected by (print): <b>Jon White</b>		Site/Facility ID # <b>North Star</b>		P.O. # <b>North Star</b>																			
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Quote #																	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed																					
Sample ID		Comp/Grab		Matrix *		Depth								Date		Time							
UST-H2O EB-5 Trip Blank		GW OT GW OT GW OT		5/26/21 5/26/21		0845 0822								11 11		11 11							
GW GW GW GW		GW GW GW GW		GW GW GW GW		GW GW GW GW		GW GW GW GW		GW GW GW GW													
* Matrix: SS - Soil   AIR - Air   F - Filter GW - Groundwater   B - Bioassay WW - WasteWater DW - Drinking Water OT - Other <u>water</u>				Remarks:				pH _____ Temp _____ Flow _____ Other _____				Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N											
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier				Tracking #				Trip Blank Received: Yes/No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCL/ MeOH TBR				If preservation required by Login: Date/Time											
Relinquished by: (Signature) 				Date: <b>5/27/21</b>		Time: <b>15:30</b>		Received by: (Signature) 				Temp: <b>12.0</b> °C <b>7.1-6</b>				Bottles Received: <b>44</b>							
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature) 				Date: <b>5/28/21</b> Time: <b>9:00</b>				Hold:				Condition: NCF / <input checked="" type="radio"/> OK			

# DRAFT

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14) Sample Date 5/26/21 (#L1359488)



**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1359488  
Samples Received: 05/28/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
05/26/21 09:21

Received date/time  
05/28/21 09:00

## S40-1.5 L1359488-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	5	06/01/21 16:23	06/03/21 00:52	LAT	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680166	10	05/31/21 00:52	06/03/21 03:23	CAG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680166	50	05/31/21 00:52	06/03/21 11:33	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 14:22	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 09:32

Received date/time  
05/28/21 09:00

## S41-2.5 L1359488-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	5	06/01/21 16:23	06/03/21 00:56	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 09:41

Received date/time  
05/28/21 09:00

## S42-0 L1359488-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	5	06/01/21 16:23	06/03/21 00:59	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 10:03

Received date/time  
05/28/21 09:00

## S43-0 L1359488-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	5	06/01/21 16:23	06/03/21 02:05	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	50	06/01/21 16:23	06/03/21 02:09	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 10:12

Received date/time  
05/28/21 09:00

## S44-0 L1359488-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	10	06/01/21 16:23	06/03/21 02:16	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	5	06/01/21 16:23	06/03/21 01:07	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 10:36

Received date/time  
05/28/21 09:00

## S45-0 L1359488-06 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1680166	2	05/31/21 00:52	06/03/21 03:09	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 10:48

Received date/time  
05/28/21 09:00

## S46-0 L1359488-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	5	06/01/21 16:23	06/03/21 01:11	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1681082	5	06/01/21 16:23	06/03/21 02:19	LAT	Mt. Juliet, TN

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

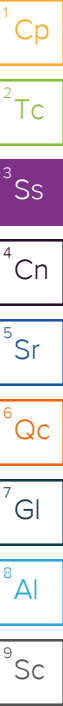
L1359488

DATE/TIME:

06/08/21 12:43

PAGE:

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# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
05/26/21 10:48

Received date/time  
05/28/21 09:00

## S46-0 L1359488-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 14:02	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 11:00

Received date/time  
05/28/21 09:00

## S47-0 L1359488-08 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 13:03	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 11:09

Received date/time  
05/28/21 09:00

## S48-0 L1359488-09 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681369	1	06/02/21 13:56	06/02/21 14:05	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 11:43	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 11:24

Received date/time  
05/28/21 09:00

## S49-0 L1359488-10 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681402	1	06/02/21 12:05	06/02/21 12:12	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 13:42	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 11:37

Received date/time  
05/28/21 09:00

## S50-0 L1359488-11 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681402	1	06/02/21 12:05	06/02/21 12:12	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 14:42	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 11:37

Received date/time  
05/28/21 09:00

## S50-0 DUP L1359488-12 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681402	1	06/02/21 12:05	06/02/21 12:12	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	10	05/31/21 01:05	05/31/21 15:01	JNJ	Mt. Juliet, TN

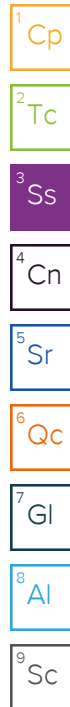
Collected by  
Jon White

Collected date/time  
05/26/21 15:03

Received date/time  
05/28/21 09:00

## S51-2.5 L1359488-13 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681402	1	06/02/21 12:05	06/02/21 12:12	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 12:43	JNJ	Mt. Juliet, TN



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
05/26/21 15:15

Received date/time  
05/28/21 09:00

## S51-3 L1359488-14 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1682852	1	06/05/21 10:34	06/05/21 10:49	CMK	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1682705	1	06/04/21 08:35	06/04/21 22:55	LEA	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 15:41

Received date/time  
05/28/21 09:00

## S52-3 L1359488-15 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681402	1	06/02/21 12:05	06/02/21 12:12	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 12:03	JNJ	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
05/26/21 16:24

Received date/time  
05/28/21 09:00

## S53-2 L1359488-16 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1681402	1	06/02/21 12:05	06/02/21 12:12	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1680167	1	05/31/21 01:05	05/31/21 12:23	JNJ	Mt. Juliet, TN

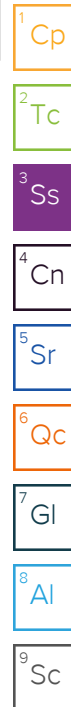
Collected by  
Jon White

Collected date/time  
05/26/21 00:00


Received date/time  
05/28/21 09:00

## TRIP BLANK L1359488-17 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1682788	1	06/04/21 12:16	06/04/21 12:16	DWR	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

#### Report Revision History

---

Level II Report - Version 1: 06/07/21 16:56

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.2		1	06/02/2021 14:05	<a href="#">WG1681369</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	8.43		0.116	1.16	5	06/03/2021 00:52	<a href="#">WG1681082</a>
Cadmium	0.827	J	0.0992	1.16	5	06/03/2021 00:52	<a href="#">WG1681082</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Diesel Range Organics (DRO)	538		15.4	46.4	10	06/03/2021 03:23	<a href="#">WG1680166</a>
Residual Range Organics (RRO)	1950		193	580	50	06/03/2021 11:33	<a href="#">WG1680166</a>
(S) o-Terphenyl	67.5			18.0-148		06/03/2021 03:23	<a href="#">WG1680166</a>
(S) o-Terphenyl	105	J7		18.0-148		06/03/2021 11:33	<a href="#">WG1680166</a>

## Sample Narrative:

L1359488-01 WG1680166: Dilution due to matrix.

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.0104		0.00267	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Acenaphthene	0.00523	J	0.00242	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Acenaphthylene	U		0.00251	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.0507		0.00201	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.0334		0.00208	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.0546		0.00177	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.0389		0.00205	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.0181		0.00249	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Chrysene	0.0599		0.00269	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	0.00639	J	0.00200	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Fluoranthene	0.0775		0.00263	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Fluorene	0.00479	J	0.00238	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.0261		0.00210	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Naphthalene	0.0197	J	0.00473	0.0232	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Phenanthrene	0.0480		0.00268	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
Pyrene	0.0662		0.00232	0.00696	1	05/31/2021 14:22	<a href="#">WG1680167</a>
1-Methylnaphthalene	0.00699	J	0.00521	0.0232	1	05/31/2021 14:22	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.0115	J	0.00495	0.0232	1	05/31/2021 14:22	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00541	0.0232	1	05/31/2021 14:22	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	67.6			14.0-149		05/31/2021 14:22	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	58.3			34.0-125		05/31/2021 14:22	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	86.7			23.0-120		05/31/2021 14:22	<a href="#">WG1680167</a>

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## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.2		1	06/02/2021 14:05	<a href="#">WG1681369</a>

1 Cp

2 Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.71		0.122	1.22	5	06/03/2021 00:56	<a href="#">WG1681082</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



S42-0

Collected date/time: 05/26/21 09:41

## SAMPLE RESULTS - 03

L1359488

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.0		1	06/02/2021 14:05	<a href="#">WG1681369</a>

1 Cp

2 Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.18		0.116	1.16	5	06/03/2021 00:59	<a href="#">WG1681082</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S43-0

Collected date/time: 05/26/21 10:03

## SAMPLE RESULTS - 04

L1359488

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.3		1	06/02/2021 14:05	<a href="#">WG1681369</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	48.5		0.105	1.05	5	06/03/2021 02:05	<a href="#">WG1681082</a>
Cadmium	3.03		0.0897	1.05	5	06/03/2021 02:05	<a href="#">WG1681082</a>
Chromium	84.2		0.311	5.24	5	06/03/2021 02:05	<a href="#">WG1681082</a>
Lead	389		1.04	21.0	50	06/03/2021 02:09	<a href="#">WG1681082</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1359488

DATE/TIME:

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Collected date/time: 05/26/21 10:12

## SAMPLE RESULTS - 05

L1359488

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.4		1	06/02/2021 14:05	<a href="#">WG1681369</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	3.43		0.113	1.13	5	06/03/2021 01:07	<a href="#">WG1681082</a>
Cadmium	0.560	J	0.0967	1.13	5	06/03/2021 01:07	<a href="#">WG1681082</a>
Chromium	16.5		0.335	5.66	5	06/03/2021 01:07	<a href="#">WG1681082</a>
Lead	126		0.224	4.52	10	06/03/2021 02:16	<a href="#">WG1681082</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1359488

DATE/TIME:

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Collected date/time: 05/26/21 10:36

## SAMPLE RESULTS - 06

L1359488

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.4		1	06/02/2021 14:05	<a href="#">WG1681369</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	663		2.88	8.66	2	06/03/2021 03:09	<a href="#">WG1680166</a>
Residual Range Organics (RRO)	153		7.21	21.7	2	06/03/2021 03:09	<a href="#">WG1680166</a>
(S) o-Terphenyl	79.4			18.0-148		06/03/2021 03:09	<a href="#">WG1680166</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.8		1	06/02/2021 14:05	<a href="#">WG1681369</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	12.5		0.110	1.10	5	06/03/2021 02:19	<a href="#">WG1681082</a>
Cadmium	1.83		0.0941	1.10	5	06/03/2021 01:11	<a href="#">WG1681082</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	U		0.00253	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Acenaphthene	U		0.00230	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Acenaphthylene	U		0.00238	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.0555		0.00190	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.0444		0.00197	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.0937		0.00168	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.0535		0.00195	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.0285		0.00237	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Chrysene	0.0704		0.00255	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	0.0108		0.00189	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Fluoranthene	0.119		0.00250	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Fluorene	U		0.00226	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.0532		0.00199	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Naphthalene	0.0291		0.00449	0.0220	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Phenanthrene	U		0.00254	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
Pyrene	0.113		0.00220	0.00661	1	05/31/2021 14:02	<a href="#">WG1680167</a>
1-Methylnaphthalene	0.0123	J	0.00494	0.0220	1	05/31/2021 14:02	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.0198	J	0.00470	0.0220	1	05/31/2021 14:02	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00513	0.0220	1	05/31/2021 14:02	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	68.5			14.0-149		05/31/2021 14:02	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	49.4			34.0-125		05/31/2021 14:02	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	87.5			23.0-120		05/31/2021 14:02	<a href="#">WG1680167</a>

S47-0

Collected date/time: 05/26/21 11:00

## SAMPLE RESULTS - 08

L1359488

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.9		1	06/02/2021 14:05	<a href="#">WG1681369</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.0105		0.00253	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Acenaphthene	0.00887		0.00230	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Acenaphthylene	0.0121		0.00238	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.0424		0.00190	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.0494		0.00197	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.0642		0.00168	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.0429		0.00195	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.0224		0.00236	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Chrysene	0.0525		0.00255	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	0.00791		0.00189	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Fluoranthene	0.0754		0.00250	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Fluorene	0.00822		0.00225	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.0453		0.00199	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Naphthalene	0.0341		0.00449	0.0220	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Phenanthrene	0.0743		0.00254	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
Pyrene	0.0706		0.00220	0.00660	1	05/31/2021 13:03	<a href="#">WG1680167</a>
1-Methylnaphthalene	0.0164	J	0.00494	0.0220	1	05/31/2021 13:03	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.0346		0.00470	0.0220	1	05/31/2021 13:03	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00512	0.0220	1	05/31/2021 13:03	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	55.4			14.0-149		05/31/2021 13:03	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	54.9			34.0-125		05/31/2021 13:03	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	61.5			23.0-120		05/31/2021 13:03	<a href="#">WG1680167</a>

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## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.1		1	06/02/2021 14:05	<a href="#">WG1681369</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00373	J	0.00239	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Acenaphthene	U		0.00217	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Acenaphthylene	U		0.00225	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Benzo(a)anthracene	U		0.00180	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Benzo(a)pyrene	U		0.00186	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.00240	J	0.00159	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	U		0.00184	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	U		0.00224	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Chrysene	U		0.00241	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	U		0.00179	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Fluoranthene	0.00403	J	0.00236	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Fluorene	U		0.00213	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	U		0.00188	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Naphthalene	0.0212		0.00425	0.0208	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Phenanthrene	0.00852		0.00240	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
Pyrene	0.00389	J	0.00208	0.00624	1	05/31/2021 11:43	<a href="#">WG1680167</a>
1-Methylnaphthalene	U		0.00467	0.0208	1	05/31/2021 11:43	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.00689	J	0.00444	0.0208	1	05/31/2021 11:43	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00485	0.0208	1	05/31/2021 11:43	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	62.4			14.0-149		05/31/2021 11:43	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	65.8			34.0-125		05/31/2021 11:43	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	86.6			23.0-120		05/31/2021 11:43	<a href="#">WG1680167</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.5		1	06/02/2021 12:12	<a href="#">WG1681402</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.125		0.00251	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Acenaphthene	0.0154		0.00228	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Acenaphthylene	0.0306		0.00236	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.317		0.00189	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.328		0.00196	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.344		0.00167	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.228		0.00193	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.128		0.00235	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Chrysene	0.318		0.00253	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	0.0468		0.00188	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Fluoranthene	0.528		0.00248	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Fluorene	0.0239		0.00224	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.258		0.00198	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Naphthalene	0.0604		0.00446	0.0218	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Phenanthrene	0.395		0.00252	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
Pyrene	0.471		0.00218	0.00655	1	05/31/2021 13:42	<a href="#">WG1680167</a>
1-Methylnaphthalene	0.0253		0.00490	0.0218	1	05/31/2021 13:42	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.0457		0.00466	0.0218	1	05/31/2021 13:42	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00509	0.0218	1	05/31/2021 13:42	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	71.0			14.0-149		05/31/2021 13:42	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	67.0			34.0-125		05/31/2021 13:42	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	76.9			23.0-120		05/31/2021 13:42	<a href="#">WG1680167</a>



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.3		1	06/02/2021 12:12	<a href="#">WG1681402</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00372	J	0.00263	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Acenaphthene	U		0.00239	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Acenaphthylene	0.00278	J	0.00247	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.0334		0.00198	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.0453		0.00205	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.0479		0.00175	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.0539		0.00203	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.0132		0.00246	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Chrysene	0.0300		0.00266	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	0.0107		0.00197	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Fluoranthene	0.0356		0.00260	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Fluorene	U		0.00235	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.0368		0.00207	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Naphthalene	0.00548	J	0.00467	0.0229	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Phenanthrene	0.0126		0.00265	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
Pyrene	0.0428		0.00229	0.00687	1	05/31/2021 14:42	<a href="#">WG1680167</a>
1-Methylnaphthalene	U		0.00514	0.0229	1	05/31/2021 14:42	<a href="#">WG1680167</a>
2-Methylnaphthalene	U		0.00489	0.0229	1	05/31/2021 14:42	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00534	0.0229	1	05/31/2021 14:42	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	70.3			14.0-149		05/31/2021 14:42	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	58.9			34.0-125		05/31/2021 14:42	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	72.7			23.0-120		05/31/2021 14:42	<a href="#">WG1680167</a>

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.7		1	06/02/2021 12:12	<a href="#">WG1681402</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	U		0.0254	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Acenaphthene	U		0.0230	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Acenaphthylene	U		0.0238	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.0358	J	0.0191	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.0765		0.0197	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.0892		0.0169	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.101		0.0195	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.0254	J	0.0237	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Chrysene	0.0407	J	0.0256	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	U		0.0190	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Fluoranthene	0.0595	J	0.0250	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Fluorene	U		0.0226	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.0779		0.0200	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Naphthalene	U		0.0450	0.220	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Phenanthrene	U		0.0255	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
Pyrene	0.0714		0.0220	0.0661	10	05/31/2021 15:01	<a href="#">WG1680167</a>
1-Methylnaphthalene	U		0.0495	0.220	10	05/31/2021 15:01	<a href="#">WG1680167</a>
2-Methylnaphthalene	U		0.0471	0.220	10	05/31/2021 15:01	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.0514	0.220	10	05/31/2021 15:01	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	49.8			14.0-149		05/31/2021 15:01	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	49.8			34.0-125		05/31/2021 15:01	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	66.6			23.0-120		05/31/2021 15:01	<a href="#">WG1680167</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.0		1	06/02/2021 12:12	<a href="#">WG1681402</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.0146		0.00242	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Acenaphthene	U		0.00220	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Acenaphthylene	0.0191		0.00227	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.166		0.00182	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.252		0.00188	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.224		0.00161	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.237		0.00186	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.0758		0.00226	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Chrysene	0.196		0.00244	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	0.0257		0.00181	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Fluoranthene	0.239		0.00239	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Fluorene	0.00227	J	0.00216	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.217		0.00191	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Naphthalene	0.0261		0.00429	0.0211	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Phenanthrene	0.0719		0.00243	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
Pyrene	0.320		0.00211	0.00632	1	05/31/2021 12:43	<a href="#">WG1680167</a>
1-Methylnaphthalene	0.00583	J	0.00473	0.0211	1	05/31/2021 12:43	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.00891	J	0.00449	0.0211	1	05/31/2021 12:43	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00491	0.0211	1	05/31/2021 12:43	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	70.6			14.0-149		05/31/2021 12:43	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	70.1			34.0-125		05/31/2021 12:43	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	82.9			23.0-120		05/31/2021 12:43	<a href="#">WG1680167</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.7		1	06/05/2021 10:49	<a href="#">WG1682852</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.0208		0.00243	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Acenaphthene	U		0.00221	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Acenaphthylene	0.0313		0.00228	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Benzo(a)anthracene	0.260		0.00183	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Benzo(a)pyrene	0.442		0.00189	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Benzo(b)fluoranthene	0.449		0.00162	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Benzo(g,h,i)perylene	0.471		0.00187	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Benzo(k)fluoranthene	0.155		0.00227	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Chrysene	0.283		0.00245	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Dibenz(a,h)anthracene	0.0448		0.00182	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Fluoranthene	0.491		0.00240	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Fluorene	0.00379	J	0.00216	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Indeno(1,2,3-cd)pyrene	0.397		0.00191	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Naphthalene	0.0452		0.00431	0.0211	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Phenanthrene	0.109		0.00244	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
Pyrene	0.646		0.00211	0.00633	1	06/04/2021 22:55	<a href="#">WG1682705</a>
1-Methylnaphthalene	0.00742	J	0.00474	0.0211	1	06/04/2021 22:55	<a href="#">WG1682705</a>
2-Methylnaphthalene	0.0121	J	0.00451	0.0211	1	06/04/2021 22:55	<a href="#">WG1682705</a>
2-Chloronaphthalene	U		0.00492	0.0211	1	06/04/2021 22:55	<a href="#">WG1682705</a>
(S) Nitrobenzene-d5	87.8			14.0-149		06/04/2021 22:55	<a href="#">WG1682705</a>
(S) 2-Fluorobiphenyl	76.3			34.0-125		06/04/2021 22:55	<a href="#">WG1682705</a>
(S) p-Terphenyl-d14	90.6			23.0-120		06/04/2021 22:55	<a href="#">WG1682705</a>

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## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.2		1	06/02/2021 12:12	<a href="#">WG1681402</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00420	J	0.00252	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Acenaphthene	U		0.00229	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Acenaphthylene	U		0.00237	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Benzo(a)anthracene	0.00709		0.00190	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Benzo(a)pyrene	0.00598	J	0.00196	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	0.00689		0.00168	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	0.00380	J	0.00194	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	0.00259	J	0.00236	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Chrysene	0.00679		0.00254	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	U		0.00189	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Fluoranthene	0.0123		0.00249	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Fluorene	U		0.00225	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	0.00405	J	0.00198	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Naphthalene	0.0227		0.00447	0.0219	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Phenanthrene	0.0120		0.00253	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
Pyrene	0.0123		0.00219	0.00658	1	05/31/2021 12:03	<a href="#">WG1680167</a>
1-Methylnaphthalene	U		0.00492	0.0219	1	05/31/2021 12:03	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.00607	J	0.00468	0.0219	1	05/31/2021 12:03	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00511	0.0219	1	05/31/2021 12:03	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	71.3			14.0-149		05/31/2021 12:03	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	72.2			34.0-125		05/31/2021 12:03	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	86.9			23.0-120		05/31/2021 12:03	<a href="#">WG1680167</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.6		1	06/02/2021 12:12	<a href="#">WG1681402</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00376	J	0.00254	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Acenaphthene	U		0.00231	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Acenaphthylene	U		0.00238	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Benzo(a)anthracene	U		0.00191	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Benzo(a)pyrene	U		0.00198	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Benzo(b)fluoranthene	U		0.00169	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Benzo(g,h,i)perylene	U		0.00195	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Benzo(k)fluoranthene	U		0.00237	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Chrysene	U		0.00256	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Dibenz(a,h)anthracene	U		0.00190	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Fluoranthene	0.00423	J	0.00250	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Fluorene	U		0.00226	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Indeno(1,2,3-cd)pyrene	U		0.00200	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Naphthalene	0.0295		0.00450	0.0221	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Phenanthrene	0.0101		0.00255	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
Pyrene	0.00365	J	0.00221	0.00662	1	05/31/2021 12:23	<a href="#">WG1680167</a>
1-Methylnaphthalene	U		0.00495	0.0221	1	05/31/2021 12:23	<a href="#">WG1680167</a>
2-Methylnaphthalene	0.00857	J	0.00471	0.0221	1	05/31/2021 12:23	<a href="#">WG1680167</a>
2-Chloronaphthalene	U		0.00514	0.0221	1	05/31/2021 12:23	<a href="#">WG1680167</a>
(S) Nitrobenzene-d5	70.9			14.0-149		05/31/2021 12:23	<a href="#">WG1680167</a>
(S) 2-Fluorobiphenyl	69.8			34.0-125		05/31/2021 12:23	<a href="#">WG1680167</a>
(S) p-Terphenyl-d14	86.8			23.0-120		05/31/2021 12:23	<a href="#">WG1680167</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## TRIP BLANK

Collected date/time: 05/26/21 00:00

## SAMPLE RESULTS - 17

L1359488

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	2.69	J	0.548	10.0	1	06/04/2021 12:16	WG1682788
Acrylonitrile	U		0.0760	0.500	1	06/04/2021 12:16	WG1682788
Acrolein	U		0.758	50.0	1	06/04/2021 12:16	WG1682788
Benzene	U		0.0160	0.0400	1	06/04/2021 12:16	WG1682788
Bromobenzene	U		0.0420	0.500	1	06/04/2021 12:16	WG1682788
Bromodichloromethane	U		0.0315	0.100	1	06/04/2021 12:16	WG1682788
Bromoform	U		0.239	1.00	1	06/04/2021 12:16	WG1682788
Bromomethane	U		0.148	0.500	1	06/04/2021 12:16	WG1682788
n-Butylbenzene	U	C3	0.153	0.500	1	06/04/2021 12:16	WG1682788
sec-Butylbenzene	U		0.101	0.500	1	06/04/2021 12:16	WG1682788
tert-Butylbenzene	U		0.0620	0.200	1	06/04/2021 12:16	WG1682788
Carbon disulfide	U		0.162	0.500	1	06/04/2021 12:16	WG1682788
Carbon tetrachloride	U		0.0432	0.200	1	06/04/2021 12:16	WG1682788
Chlorobenzene	U		0.0229	0.100	1	06/04/2021 12:16	WG1682788
Chlorodibromomethane	U		0.0180	0.100	1	06/04/2021 12:16	WG1682788
Chloroethane	U		0.0432	0.200	1	06/04/2021 12:16	WG1682788
Chloroform	U		0.0166	0.100	1	06/04/2021 12:16	WG1682788
Chloromethane	U		0.0556	0.500	1	06/04/2021 12:16	WG1682788
2-Chlorotoluene	U		0.0368	0.100	1	06/04/2021 12:16	WG1682788
4-Chlorotoluene	U		0.0452	0.200	1	06/04/2021 12:16	WG1682788
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	06/04/2021 12:16	WG1682788
1,2-Dibromoethane	U		0.0210	0.100	1	06/04/2021 12:16	WG1682788
Dibromomethane	U		0.0400	0.200	1	06/04/2021 12:16	WG1682788
1,2-Dichlorobenzene	U		0.0580	0.200	1	06/04/2021 12:16	WG1682788
1,3-Dichlorobenzene	U		0.0680	0.200	1	06/04/2021 12:16	WG1682788
1,4-Dichlorobenzene	U		0.0788	0.200	1	06/04/2021 12:16	WG1682788
Dichlorodifluoromethane	U		0.0327	0.100	1	06/04/2021 12:16	WG1682788
1,1-Dichloroethane	U		0.0230	0.100	1	06/04/2021 12:16	WG1682788
1,2-Dichloroethane	U		0.0190	0.100	1	06/04/2021 12:16	WG1682788
1,1-Dichloroethene	U		0.0200	0.100	1	06/04/2021 12:16	WG1682788
cis-1,2-Dichloroethene	U		0.0276	0.100	1	06/04/2021 12:16	WG1682788
trans-1,2-Dichloroethene	U		0.0572	0.200	1	06/04/2021 12:16	WG1682788
1,2-Dichloropropane	U		0.0508	0.200	1	06/04/2021 12:16	WG1682788
1,1-Dichloropropene	U		0.0280	0.100	1	06/04/2021 12:16	WG1682788
1,3-Dichloropropane	U		0.0700	0.200	1	06/04/2021 12:16	WG1682788
cis-1,3-Dichloropropene	U		0.0271	0.100	1	06/04/2021 12:16	WG1682788
trans-1,3-Dichloropropene	U		0.0612	0.200	1	06/04/2021 12:16	WG1682788
2,2-Dichloropropane	U		0.0317	0.100	1	06/04/2021 12:16	WG1682788
Di-isopropyl ether	U	C4	0.0140	0.0400	1	06/04/2021 12:16	WG1682788
Ethylbenzene	U		0.0212	0.100	1	06/04/2021 12:16	WG1682788
Hexachloro-1,3-butadiene	U		0.508	1.00	1	06/04/2021 12:16	WG1682788
2-Hexanone	U		0.400	1.00	1	06/04/2021 12:16	WG1682788
Isopropylbenzene	U		0.0345	0.100	1	06/04/2021 12:16	WG1682788
p-Isopropyltoluene	U		0.0932	0.200	1	06/04/2021 12:16	WG1682788
2-Butanone (MEK)	U		0.500	1.00	1	06/04/2021 12:16	WG1682788
Methylene Chloride	U		0.265	1.00	1	06/04/2021 12:16	WG1682788
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	06/04/2021 12:16	WG1682788
Methyl tert-butyl ether	U		0.0118	0.0400	1	06/04/2021 12:16	WG1682788
Naphthalene	U		0.124	0.500	1	06/04/2021 12:16	WG1682788
n-Propylbenzene	U		0.0472	0.200	1	06/04/2021 12:16	WG1682788
Styrene	U		0.109	0.500	1	06/04/2021 12:16	WG1682788
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	06/04/2021 12:16	WG1682788
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	06/04/2021 12:16	WG1682788
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	06/04/2021 12:16	WG1682788
Tetrachloroethene	U		0.0280	0.100	1	06/04/2021 12:16	WG1682788
Toluene	U		0.0500	0.200	1	06/04/2021 12:16	WG1682788

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

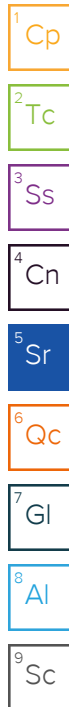
L1359488

DATE/TIME:

06/08/21 12:43

PAGE:

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## TRIP BLANK

Collected date/time: 05/26/21 00:00

## SAMPLE RESULTS - 17

L1359488

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichlorobenzene	U		0.0250	0.500	1	06/04/2021 12:16	<a href="#">WG1682788</a>
1,2,4-Trichlorobenzene	U		0.193	0.500	1	06/04/2021 12:16	<a href="#">WG1682788</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	06/04/2021 12:16	<a href="#">WG1682788</a>
1,1,2-Trichloroethane	U		0.0353	0.100	1	06/04/2021 12:16	<a href="#">WG1682788</a>
Trichloroethene	U		0.0160	0.0400	1	06/04/2021 12:16	<a href="#">WG1682788</a>
Trichlorofluoromethane	U		0.0200	0.100	1	06/04/2021 12:16	<a href="#">WG1682788</a>
1,2,3-Trichloropropane	U		0.204	0.500	1	06/04/2021 12:16	<a href="#">WG1682788</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	06/04/2021 12:16	<a href="#">WG1682788</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	06/04/2021 12:16	<a href="#">WG1682788</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	06/04/2021 12:16	<a href="#">WG1682788</a>
Vinyl chloride	U		0.0273	0.100	1	06/04/2021 12:16	<a href="#">WG1682788</a>
Xylenes, Total	U		0.191	0.260	1	06/04/2021 12:16	<a href="#">WG1682788</a>
(S) Toluene-d8	95.8			75.0-131		06/04/2021 12:16	<a href="#">WG1682788</a>
(S) 4-Bromofluorobenzene	106			67.0-138		06/04/2021 12:16	<a href="#">WG1682788</a>
(S) 1,2-Dichloroethane-d4	104			70.0-130		06/04/2021 12:16	<a href="#">WG1682788</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3662635-1 06/02/21 14:05

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1359478-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1359478-07 06/02/21 14:05 • (DUP) R3662635-3 06/02/21 14:05

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	82.2	82.0	1	0.337		10

Laboratory Control Sample (LCS)

(LCS) R3662635-2 06/02/21 14:05

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3662626-1 06/02/21 12:12

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1359488-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1359488-12 06/02/21 12:12 • (DUP) R3662626-3 06/02/21 12:12

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	90.7	89.4	1	1.42		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3662626-2 06/02/21 12:12

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3663848-1 06/05/21 10:49

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

L1360497-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1360497-02 06/05/21 10:49 • (DUP) R3663848-3 06/05/21 10:49

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	85.5	85.2	1	0.357		10

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R3663848-2 06/05/21 10:49

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3662518-1 06/02/21 23:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Lead	U		0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3662518-2 06/02/21 23:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	92.9	92.9	80.0-120	
Cadmium	100	96.9	96.9	80.0-120	
Chromium	100	91.5	91.5	80.0-120	
Lead	100	99.8	99.8	80.0-120	

L1358341-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1358341-03 06/03/21 00:09 • (MS) R3662518-5 06/02/21 23:38 • (MSD) R3662518-6 06/02/21 23:41

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	128	0.958	108	122	83.5	94.6	5	75.0-125			12.3	20
Cadmium	128	U	121	136	94.7	106	5	75.0-125			11.4	20
Chromium	128	12.8	120	143	83.3	102	5	75.0-125			17.8	20
Lead	128	2.41	125	127	95.4	97.1	5	75.0-125			1.71	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3663688-2 06/04/21 09:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		0.548	10.0
Acrylonitrile	U		0.0760	0.500
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon disulfide	U		0.162	0.500
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,2-Dichlorobenzene	U		0.0580	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100
Hexachloro-1,3-butadiene	U		0.508	1.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3663688-2 06/04/21 09:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
2-Hexanone	U		0.400	1.00
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	0.898	U	0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
Acrolein	U		0.758	50.0
(S) Toluene-d8	103			75.0-131
(S) 4-Bromofluorobenzene	103			67.0-138
(S) 1,2-Dichloroethane-d4	84.4			70.0-130

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3663688-1 06/04/21 07:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	20.6	82.4	10.0-160	
Acrylonitrile	25.0	20.0	80.0	45.0-153	

Laboratory Control Sample (LCS)

(LCS) R3663688-1 06/04/21 07:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Benzene	5.00	5.28	106	70.0-123	
Bromobenzene	5.00	5.22	104	73.0-121	
Bromodichloromethane	5.00	5.27	105	73.0-121	
Bromoform	5.00	5.48	110	64.0-132	
Bromomethane	5.00	4.90	98.0	56.0-147	
n-Butylbenzene	5.00	3.90	78.0	68.0-135	
sec-Butylbenzene	5.00	4.19	83.8	74.0-130	
tert-Butylbenzene	5.00	4.31	86.2	75.0-127	
Carbon disulfide	5.00	4.78	95.6	56.0-133	
Carbon tetrachloride	5.00	5.82	116	66.0-128	
Chlorobenzene	5.00	4.79	95.8	76.0-128	
Chlorodibromomethane	5.00	5.23	105	74.0-127	
Chloroethane	5.00	4.60	92.0	61.0-134	
Chloroform	5.00	5.75	115	72.0-123	
Chloromethane	5.00	4.00	80.0	51.0-138	
2-Chlorotoluene	5.00	5.10	102	75.0-124	
4-Chlorotoluene	5.00	5.03	101	75.0-124	
1,2-Dibromo-3-Chloropropane	5.00	4.99	99.8	59.0-130	
1,2-Dibromoethane	5.00	4.89	97.8	74.0-128	
Dibromomethane	5.00	4.87	97.4	75.0-122	
1,2-Dichlorobenzene	5.00	4.19	83.8	76.0-124	
1,3-Dichlorobenzene	5.00	4.68	93.6	76.0-125	
1,4-Dichlorobenzene	5.00	4.18	83.6	77.0-121	
Dichlorodifluoromethane	5.00	5.41	108	43.0-156	
1,1-Dichloroethane	5.00	4.83	96.6	70.0-127	
1,2-Dichloroethane	5.00	5.88	118	65.0-131	
1,1-Dichloroethene	5.00	4.55	91.0	65.0-131	
cis-1,2-Dichloroethene	5.00	5.56	111	73.0-125	
trans-1,2-Dichloroethene	5.00	5.34	107	71.0-125	
1,2-Dichloropropane	5.00	5.00	100	74.0-125	
1,1-Dichloropropene	5.00	5.52	110	73.0-125	
1,3-Dichloropropane	5.00	4.79	95.8	80.0-125	
cis-1,3-Dichloropropene	5.00	5.62	112	76.0-127	
trans-1,3-Dichloropropene	5.00	5.12	102	73.0-127	
2,2-Dichloropropane	5.00	5.39	108	59.0-135	
Di-isopropyl ether	5.00	3.66	73.2	60.0-136	
Ethylbenzene	5.00	4.93	98.6	74.0-126	
Hexachloro-1,3-butadiene	5.00	4.58	91.6	57.0-150	
2-Hexanone	25.0	24.1	96.4	54.0-147	
Isopropylbenzene	5.00	4.59	91.8	72.0-127	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Laboratory Control Sample (LCS)

(LCS) R3663688-1 06/04/21 07:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
p-Isopropyltoluene	5.00	4.26	85.2	72.0-133	
2-Butanone (MEK)	25.0	25.1	100	30.0-160	
Methylene Chloride	5.00	4.03	80.6	68.0-123	
4-Methyl-2-pentanone (MIBK)	25.0	21.1	84.4	56.0-143	
Methyl tert-butyl ether	5.00	4.13	82.6	66.0-132	
Naphthalene	5.00	3.99	79.8	59.0-130	
n-Propylbenzene	5.00	4.68	93.6	74.0-126	
Styrene	5.00	4.98	99.6	72.0-127	
1,1,1,2-Tetrachloroethane	5.00	4.64	92.8	74.0-129	
1,1,2,2-Tetrachloroethane	5.00	4.20	84.0	68.0-128	
Tetrachloroethene	5.00	5.10	102	70.0-136	
Toluene	5.00	4.82	96.4	75.0-121	
1,1,2-Trichlorotrifluoroethane	5.00	4.80	96.0	61.0-139	
1,2,3-Trichlorobenzene	5.00	4.07	81.4	59.0-139	
1,2,4-Trichlorobenzene	5.00	4.65	93.0	62.0-137	
1,1,1-Trichloroethane	5.00	6.01	120	69.0-126	
1,1,2-Trichloroethane	5.00	5.18	104	78.0-123	
Trichloroethene	5.00	6.27	125	76.0-126	
Trichlorofluoromethane	5.00	4.38	87.6	61.0-142	
1,2,3-Trichloropropane	5.00	5.23	105	67.0-129	
1,2,3-Trimethylbenzene	5.00	5.41	108	74.0-124	
1,2,4-Trimethylbenzene	5.00	4.64	92.8	70.0-126	
1,3,5-Trimethylbenzene	5.00	5.20	104	73.0-127	
Vinyl chloride	5.00	4.55	91.0	63.0-134	
Xylenes, Total	15.0	13.7	91.3	72.0-127	
Acrolein	25.0	30.3	121	10.0-160	
(S) Toluene-d8			100	75.0-131	
(S) 4-Bromofluorobenzene			91.8	67.0-138	
(S) 1,2-Dichloroethane-d4			107	70.0-130	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3662607-1 06/02/21 22:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	62.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3662607-2 06/02/21 23:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	38.5	77.0	50.0-150	
(S) o-Terphenyl			80.6	18.0-148	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3661522-2 05/31/21 07:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	62.1			14.0-149
(S) 2-Fluorobiphenyl	62.5			34.0-125
(S) p-Terphenyl-d14	76.4			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3661522-1 05/31/21 07:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0725	90.6	50.0-126	
Acenaphthene	0.0800	0.0617	77.1	50.0-120	
Acenaphthylene	0.0800	0.0697	87.1	50.0-120	
Benzo(a)anthracene	0.0800	0.0758	94.8	45.0-120	
Benzo(a)pyrene	0.0800	0.0599	74.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0597	74.6	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0547	68.4	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0603	75.4	49.0-125	
Chrysene	0.0800	0.0683	85.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0590	73.8	47.0-125	
Fluoranthene	0.0800	0.0693	86.6	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3661522-1 05/31/21 07:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0678	84.8	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0603	75.4	46.0-125	
Naphthalene	0.0800	0.0583	72.9	50.0-120	
Phenanthrene	0.0800	0.0662	82.8	47.0-120	
Pyrene	0.0800	0.0674	84.3	43.0-123	
1-Methylnaphthalene	0.0800	0.0622	77.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0602	75.3	50.0-120	
2-Chloronaphthalene	0.0800	0.0606	75.8	50.0-120	
(S) Nitrobenzene-d5			68.5	14.0-149	
(S) 2-Fluorobiphenyl			63.5	34.0-125	
(S) p-Terphenyl-d14			75.3	23.0-120	

L1359302-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359302-01 05/31/21 10:44 • (MS) R3661522-3 05/31/21 11:03 • (MSD) R3661522-4 05/31/21 11:23

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0949	0.00288	0.0687	0.0673	69.4	67.5	1	10.0-145			2.14	30
Acenaphthene	0.0949	0.00633	0.0667	0.0610	63.6	57.3	1	14.0-127			8.91	27
Acenaphthylene	0.0949	U	0.0673	0.0621	70.9	65.1	1	21.0-124			8.04	25
Benzo(a)anthracene	0.0949	0.00223	0.0738	0.0696	75.5	70.6	1	10.0-139			5.91	30
Benzo(a)pyrene	0.0949	U	0.0662	0.0619	69.8	65.0	1	10.0-141			6.61	31
Benzo(b)fluoranthene	0.0949	0.00270	0.0616	0.0588	62.1	58.8	1	10.0-140			4.62	36
Benzo(g,h,i)perylene	0.0949	0.00252	0.0601	0.0566	60.7	56.8	1	10.0-140			6.01	33
Benzo(k)fluoranthene	0.0949	U	0.0633	0.0587	66.7	61.5	1	10.0-137			7.54	31
Chrysene	0.0949	U	0.0717	0.0663	75.6	69.5	1	10.0-145			7.89	30
Dibenz(a,h)anthracene	0.0949	U	0.0596	0.0563	62.9	59.0	1	10.0-132			5.85	31
Fluoranthene	0.0949	0.00449	0.0671	0.0669	66.1	65.5	1	10.0-153			0.361	33
Fluorene	0.0949	0.0133	0.0806	0.0737	70.9	63.3	1	11.0-130			8.94	29
Indeno(1,2,3-cd)pyrene	0.0949	U	0.0611	0.0577	64.4	60.5	1	10.0-137			5.70	32
Naphthalene	0.0949	0.0587	0.136	0.123	81.0	67.9	1	10.0-135			9.35	27
Phenanthrene	0.0949	0.0157	0.0811	0.0783	68.9	65.6	1	10.0-144			3.49	31
Pyrene	0.0949	0.00738	0.0739	0.0709	70.2	66.6	1	10.0-148			4.18	35
1-Methylnaphthalene	0.0949	0.287	0.460	0.422	182	142	1	10.0-142	J5		8.50	28
2-Methylnaphthalene	0.0949	0.657	0.986	0.912	347	268	1	10.0-137	V	V	7.78	28
2-Chloronaphthalene	0.0949	U	0.0600	0.0548	63.3	57.5	1	29.0-120			9.06	24
(S) Nitrobenzene-d5					0.000	0.000		14.0-149	J2	J2		
(S) 2-Fluorobiphenyl					48.7	52.1		34.0-125				
(S) p-Terphenyl-d14					66.0	62.9		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1359302-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1359302-01 05/31/21 10:44 • (MS) R3661522-3 05/31/21 11:03 • (MSD) R3661522-4 05/31/21 11:23

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%

Sample Narrative:  
OS: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3663461-2 06/04/21 16:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	95.0			14.0-149
(S) 2-Fluorobiphenyl	82.7			34.0-125
(S) p-Terphenyl-d14	118			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3663461-1 06/04/21 16:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0541	67.6	50.0-126	
Acenaphthene	0.0800	0.0654	81.8	50.0-120	
Acenaphthylene	0.0800	0.0613	76.6	50.0-120	
Benzo(a)anthracene	0.0800	0.0566	70.8	45.0-120	
Benzo(a)pyrene	0.0800	0.0582	72.8	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0642	80.3	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0684	85.5	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0684	85.5	49.0-125	
Chrysene	0.0800	0.0676	84.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0684	85.5	47.0-125	
Fluoranthene	0.0800	0.0662	82.8	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3663461-1 06/04/21 16:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0640	80.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0759	94.9	46.0-125	
Naphthalene	0.0800	0.0649	81.1	50.0-120	
Phenanthrene	0.0800	0.0572	71.5	47.0-120	
Pyrene	0.0800	0.0738	92.3	43.0-123	
1-Methylnaphthalene	0.0800	0.0728	91.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0676	84.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0590	73.8	50.0-120	
(S) Nitrobenzene-d5			101	14.0-149	
(S) 2-Fluorobiphenyl			89.6	34.0-125	
(S) p-Terphenyl-d14			117	23.0-120	

L1361308-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1361308-01 06/04/21 19:56 • (MS) R3663461-3 06/04/21 20:14 • (MSD) R3663461-4 06/04/21 20:32

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0788	U	0.0447	0.0382	56.7	48.5	1	10.0-145			15.7	30
Acenaphthene	0.0788	U	0.0557	0.0491	70.7	62.3	1	14.0-127			12.6	27
Acenaphthylene	0.0788	U	0.0528	0.0462	67.0	58.6	1	21.0-124			13.3	25
Benzo(a)anthracene	0.0788	U	0.0465	0.0384	59.0	48.7	1	10.0-139			19.1	30
Benzo(a)pyrene	0.0788	U	0.0524	0.0439	66.5	55.7	1	10.0-141			17.7	31
Benzo(b)fluoranthene	0.0788	U	0.0507	0.0417	64.3	52.9	1	10.0-140			19.5	36
Benzo(g,h,i)perylene	0.0788	U	0.0555	0.0481	70.4	61.0	1	10.0-140			14.3	33
Benzo(k)fluoranthene	0.0788	U	0.0530	0.0451	67.3	57.2	1	10.0-137			16.1	31
Chrysene	0.0788	U	0.0580	0.0498	73.6	63.2	1	10.0-145			15.2	30
Dibenz(a,h)anthracene	0.0788	U	0.0532	0.0427	67.5	54.2	1	10.0-132			21.9	31
Fluoranthene	0.0788	U	0.0581	0.0490	73.7	62.2	1	10.0-153			17.0	33
Fluorene	0.0788	U	0.0543	0.0469	68.9	59.5	1	11.0-130			14.6	29
Indeno(1,2,3-cd)pyrene	0.0788	U	0.0601	0.0517	76.3	65.6	1	10.0-137			15.0	32
Naphthalene	0.0788	U	0.0582	0.0517	73.9	65.6	1	10.0-135			11.8	27
Phenanthrene	0.0788	U	0.0480	0.0411	60.9	52.2	1	10.0-144			15.5	31
Pyrene	0.0788	U	0.0650	0.0558	82.5	70.8	1	10.0-148			15.2	35
1-Methylnaphthalene	0.0788	U	0.0649	0.0571	82.4	72.5	1	10.0-142			12.8	28
2-Methylnaphthalene	0.0788	U	0.0591	0.0520	75.0	66.0	1	10.0-137			12.8	28
2-Chloronaphthalene	0.0788	U	0.0501	0.0440	63.6	55.8	1	29.0-120			13.0	24
(S) Nitrobenzene-d5					87.7	78.7		14.0-149				
(S) 2-Fluorobiphenyl					76.1	66.3		34.0-125				
(S) p-Terphenyl-d14					96.2	81.9		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

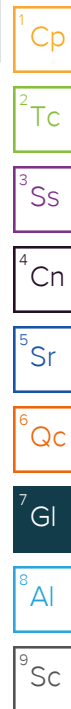
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

DRAFT

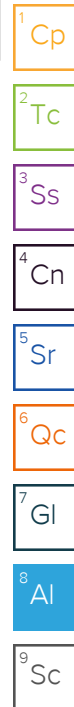
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1359488

DATE/TIME:

06/08/21 12:43

PAGE:

40 of 42



Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>  200 N. Wasco Ct. Hood River, OR 97031						Billing Information: Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031  Email To: msba@msbaenvironmental.com;jwhite@msbae						Analysis / Container / Preservative								Chain of Custody Page <u>1</u> of <u>2</u>    <small>12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf</small>			
Report to: <b>Jon White</b>												<div style="display: flex; justify-content: space-around; align-items: center;"> <div>As,Cd,Cr,Pb 6020 8ozClr-NoPres</div> <div>Cr6 7199 4ozClr-NoPres</div> <div>NWTPHDX NOSGT 8ozClr-NoPres</div> <div>PAHs 8270ESIM 8ozClr-NoPres</div> <div>VOCs 8260D 40mlAmb/MeOH10ml/Syr</div> <div>Arsenic and Cadmium</div> <div>Arsenic</div> </div>											
Project Description: <b>North Star Casteel</b>				City/State Collected: <b>Vancouver, WA</b>		Please Circle: <input checked="" type="radio"/> PT <input type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET																	
Phone: <b>541-387-4422</b>		Client Project # <b>North Star</b>		Lab Project # <b>MSBAHROR-NSTARCASTEE</b>																			
Collected by (print): <b>Jon White</b>		Site/Facility ID # <b>North Star</b>		P.O. # <b>North Star</b>																			
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #		Date Results Needed		No. of Cntrs															
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>																							
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs																	
S40-1.5	grab	SS	1.5'	5/26/21	0921	3													-01				
S41-2.5	grab	SS	2.5'	5/26/21	0932	1													-02				
S42-0	grab	SS	0	5/26/21	0941	1													-03				
S43-0	grab	SS	0	5/26/21	1003	2													-04				
S44-0	grab	SS	0	5/26/21	1012	2													-05				
S45-0	grab	SS	0	5/26/21	1036	3													-06				
S46-0	grab	SS	0	5/26/21	1048	2													-07				
S47-0	grab	SS	0	5/26/21	1100	2													-08				
S48-0	grab	SS	0	5/26/21	1109	2													-09				
S49-0	grab	SS	0	5/26/21	1124	2													-10				
* Matrix: SS - Soil   AIR - Air   F - Filter GW - Groundwater   B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____						Remarks:						pH _____ Temp _____ Flow _____ Other _____						Sample Receipt Checklist COC Seal Present/intact: <input type="checkbox"/> NP <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier						Tracking #						Relinquished by: (Signature)  Date: 5/27/21 Time: 15:30						Received by: (Signature) Trip Blank Received: Yes / No HCL / MeOH TBR					
Relinquished by: (Signature)						Date: Time:						Received by: (Signature) Temp: 9.1/27/21 32						If preservation required by Login: Date/Time					
Relinquished by: (Signature)						Date: Time:						Received by: (Signature) Date: 5/28/21 Time: 9:00						Hold: Condition: NCF / OK					

[illegible]

# DRAFT

---

15) Sample Date 6/7/21 (#L1363905)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1363905  
Samples Received: 06/09/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
06/07/21 11:46

Received date/time  
06/09/21 10:15

## S47-1.5 L1363905-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685987	1	06/10/21 23:24	06/10/21 23:30	CMK	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686336	1	06/11/21 03:16	06/11/21 10:55	TMM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 11:46

Received date/time  
06/09/21 10:15

## S47-1.5 DUP L1363905-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685987	1	06/10/21 23:24	06/10/21 23:30	CMK	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686336	1	06/11/21 03:16	06/11/21 11:15	TMM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 10:58

Received date/time  
06/09/21 10:15

## S51-4 L1363905-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685987	1	06/10/21 23:24	06/10/21 23:30	CMK	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686336	1	06/11/21 03:16	06/11/21 11:35	TMM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 09:56

Received date/time  
06/09/21 10:15

## S54-0 L1363905-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685987	1	06/10/21 23:24	06/10/21 23:30	CMK	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1687347	5	06/15/21 17:55	06/16/21 16:01	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 10:03

Received date/time  
06/09/21 10:15

## S55-0 L1363905-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1693077	1	06/23/21 10:08	06/23/21 10:14	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1693489	5	06/23/21 17:34	06/25/21 15:08	JPD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 10:42

Received date/time  
06/09/21 10:15

## S56-1.5 L1363905-06 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686336	1	06/11/21 03:16	06/11/21 11:55	TMM	Mt. Juliet, TN

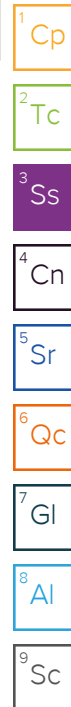
Collected by  
Jon White

Collected date/time  
06/07/21 10:50

Received date/time  
06/09/21 10:15

## S57-1.5 L1363905-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686336	1	06/11/21 03:16	06/11/21 12:14	TMM	Mt. Juliet, TN



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
06/07/21 11:09

Received date/time  
06/09/21 10:15

## S58-O L1363905-08 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686336	1	06/11/21 03:16	06/11/21 12:34	TMM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 11:21

Received date/time  
06/09/21 10:15

## S59-O L1363905-09 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686336	1	06/11/21 03:16	06/11/21 12:54	TMM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 12:58

Received date/time  
06/09/21 10:15

## S61-O L1363905-11 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1687347	5	06/15/21 17:55	06/16/21 16:05	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 13:04

Received date/time  
06/09/21 10:15

## S62-O L1363905-12 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1693611	1	06/23/21 15:50	06/23/21 15:59	CMK	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1693489	5	06/23/21 17:34	06/25/21 15:12	JPD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 13:44

Received date/time  
06/09/21 10:15

## S63-O L1363905-13 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1687347	5	06/15/21 17:55	06/16/21 16:23	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/07/21 13:58

Received date/time  
06/09/21 10:15

## S64-O L1363905-14 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1687347	5	06/15/21 17:55	06/16/21 16:26	LAT	Mt. Juliet, TN

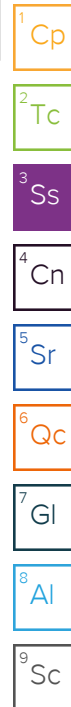
Collected by  
Jon White

Collected date/time  
06/07/21 14:18

Received date/time  
06/09/21 10:15

## S40-2.5 L1363905-15 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1685988	1	06/12/21 08:24	06/12/21 08:29	KDW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1687173	1	06/11/21 19:25	06/12/21 15:21	JN	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1687173	5	06/11/21 19:25	06/13/21 12:51	JN	Mt. Juliet, TN



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
06/07/21 09:20

Received date/time  
06/09/21 10:15

EB-6 L1363905-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1698198	1	06/30/21 18:36	06/30/21 22:29	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1700969	1	07/07/21 04:21	07/07/21 17:14	LD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1685907	1	06/10/21 08:48	06/11/21 18:25	WCR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1686666	1	06/11/21 20:57	06/12/21 02:41	LEA	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1363905

DATE/TIME:


07/09/21 10:17

PAGE:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.1		1	06/10/2021 23:30	<a href="#">WG1685987</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00242	J	0.00242	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Acenaphthene	U		0.00220	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Acenaphthylene	0.00464	J	0.00227	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Benzo(a)anthracene	0.0165		0.00182	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Benzo(a)pyrene	0.0197		0.00188	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Benzo(b)fluoranthene	0.0294		0.00161	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Benzo(g,h,i)perylene	0.0230		0.00186	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Benzo(k)fluoranthene	0.0102		0.00226	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Chrysene	0.0200		0.00244	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Dibenz(a,h)anthracene	0.00304	J	0.00181	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Fluoranthene	0.0250		0.00239	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Fluorene	U		0.00216	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Indeno(1,2,3-cd)pyrene	0.0215		0.00190	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Naphthalene	0.0120	J	0.00429	0.0210	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Phenanthrene	0.0139		0.00243	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
Pyrene	0.0283		0.00210	0.00631	1	06/11/2021 10:55	<a href="#">WG1686336</a>
1-Methylnaphthalene	0.0102	J	0.00472	0.0210	1	06/11/2021 10:55	<a href="#">WG1686336</a>
2-Methylnaphthalene	0.0141	J	0.00449	0.0210	1	06/11/2021 10:55	<a href="#">WG1686336</a>
2-Chloronaphthalene	U		0.00490	0.0210	1	06/11/2021 10:55	<a href="#">WG1686336</a>
(S) Nitrobenzene-d5	69.1			14.0-149		06/11/2021 10:55	<a href="#">WG1686336</a>
(S) 2-Fluorobiphenyl	65.7			34.0-125		06/11/2021 10:55	<a href="#">WG1686336</a>
(S) p-Terphenyl-d14	75.9			23.0-120		06/11/2021 10:55	<a href="#">WG1686336</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.1		1	06/10/2021 23:30	<a href="#">WG1685987</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	U		0.00242	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Acenaphthene	U		0.00220	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Acenaphthylene	0.00365	J	0.00227	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Benzo(a)anthracene	0.0107		0.00182	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Benzo(a)pyrene	0.0134		0.00188	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Benzo(b)fluoranthene	0.0185		0.00161	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Benzo(g,h,i)perylene	0.0148		0.00186	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Benzo(k)fluoranthene	0.00636		0.00226	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Chrysene	0.0159		0.00244	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Dibenz(a,h)anthracene	0.00196	J	0.00181	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Fluoranthene	0.0185		0.00239	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Fluorene	U		0.00216	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Indeno(1,2,3-cd)pyrene	0.0138		0.00190	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Naphthalene	0.00775	J	0.00429	0.0210	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Phenanthrene	0.0117		0.00243	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
Pyrene	0.0207		0.00210	0.00631	1	06/11/2021 11:15	<a href="#">WG1686336</a>
1-Methylnaphthalene	U		0.00472	0.0210	1	06/11/2021 11:15	<a href="#">WG1686336</a>
2-Methylnaphthalene	0.00550	J	0.00449	0.0210	1	06/11/2021 11:15	<a href="#">WG1686336</a>
2-Chloronaphthalene	U		0.00490	0.0210	1	06/11/2021 11:15	<a href="#">WG1686336</a>
(S) Nitrobenzene-d5	61.7			14.0-149		06/11/2021 11:15	<a href="#">WG1686336</a>
(S) 2-Fluorobiphenyl	60.0			34.0-125		06/11/2021 11:15	<a href="#">WG1686336</a>
(S) p-Terphenyl-d14	69.4			23.0-120		06/11/2021 11:15	<a href="#">WG1686336</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.2		1	06/10/2021 23:30	<a href="#">WG1685987</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00689		0.00244	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Acenaphthene	U		0.00222	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Acenaphthylene	0.0108		0.00229	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Benzo(a)anthracene	0.0561		0.00184	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Benzo(a)pyrene	0.0884		0.00190	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Benzo(b)fluoranthene	0.0832		0.00162	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Benzo(g,h,i)perylene	0.0952		0.00188	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Benzo(k)fluoranthene	0.0264		0.00228	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Chrysene	0.0699		0.00246	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Dibenz(a,h)anthracene	0.00875		0.00183	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Fluoranthene	0.0864		0.00241	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Fluorene	U		0.00218	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Indeno(1,2,3-cd)pyrene	0.0839		0.00192	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Naphthalene	0.0260		0.00433	0.0212	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Phenanthrene	0.0380		0.00245	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
Pyrene	0.115		0.00212	0.00637	1	06/11/2021 11:35	<a href="#">WG1686336</a>
1-Methylnaphthalene	0.00656	<a href="#">I</a>	0.00477	0.0212	1	06/11/2021 11:35	<a href="#">WG1686336</a>
2-Methylnaphthalene	0.0102	<a href="#">I</a>	0.00453	0.0212	1	06/11/2021 11:35	<a href="#">WG1686336</a>
2-Chloronaphthalene	U		0.00495	0.0212	1	06/11/2021 11:35	<a href="#">WG1686336</a>
(S) Nitrobenzene-d5	63.2			14.0-149		06/11/2021 11:35	<a href="#">WG1686336</a>
(S) 2-Fluorobiphenyl	62.8			34.0-125		06/11/2021 11:35	<a href="#">WG1686336</a>
(S) p-Terphenyl-d14	72.1			23.0-120		06/11/2021 11:35	<a href="#">WG1686336</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S54-0

Collected date/time: 06/07/21 09:56

## SAMPLE RESULTS - 04

L1363905

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.9		1	06/10/2021 23:30	<a href="#">WG1685987</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	23.2		0.104	1.04	5	06/16/2021 16:01	<a href="#">WG1687347</a>
Cadmium	1.21		0.0892	1.04	5	06/16/2021 16:01	<a href="#">WG1687347</a>
Lead	253		0.103	2.09	5	06/16/2021 16:01	<a href="#">WG1687347</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S55-0

Collected date/time: 06/07/21 10:03

## SAMPLE RESULTS - 05

L1363905

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.7		1	06/23/2021 10:14	<a href="#">WG1693077</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	12.5		0.103	1.03	5	06/25/2021 15:08	<a href="#">WG1693489</a>
Cadmium	1.20		0.0884	1.03	5	06/25/2021 15:08	<a href="#">WG1693489</a>
Lead	261		0.102	2.07	5	06/25/2021 15:08	<a href="#">WG1693489</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.5		1	06/12/2021 08:29	<a href="#">WG1685988</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.0254		0.00243	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Acenaphthene	0.00369	J	0.00221	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Acenaphthylene	0.0136		0.00228	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Benzo(a)anthracene	0.0923		0.00183	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Benzo(a)pyrene	0.0952		0.00189	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Benzo(b)fluoranthene	0.0989		0.00162	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Benzo(g,h,i)perylene	0.0596		0.00187	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Benzo(k)fluoranthene	0.0365		0.00227	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Chrysene	0.104		0.00245	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Dibenz(a,h)anthracene	0.0107		0.00182	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Fluoranthene	0.139		0.00240	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Fluorene	0.00820		0.00217	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Indeno(1,2,3-cd)pyrene	0.0652		0.00191	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Naphthalene	0.0168	J	0.00432	0.0212	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Phenanthrene	0.0943		0.00244	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
Pyrene	0.144		0.00212	0.00635	1	06/11/2021 11:55	<a href="#">WG1686336</a>
1-Methylnaphthalene	0.00615	J	0.00475	0.0212	1	06/11/2021 11:55	<a href="#">WG1686336</a>
2-Methylnaphthalene	0.00909	J	0.00452	0.0212	1	06/11/2021 11:55	<a href="#">WG1686336</a>
2-Chloronaphthalene	U		0.00493	0.0212	1	06/11/2021 11:55	<a href="#">WG1686336</a>
(S) Nitrobenzene-d5	63.7			14.0-149		06/11/2021 11:55	<a href="#">WG1686336</a>
(S) 2-Fluorobiphenyl	63.3			34.0-125		06/11/2021 11:55	<a href="#">WG1686336</a>
(S) p-Terphenyl-d14	72.4			23.0-120		06/11/2021 11:55	<a href="#">WG1686336</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.1		1	06/12/2021 08:29	<a href="#">WG1685988</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00526	J	0.00244	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Acenaphthene	0.00301	J	0.00222	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Acenaphthylene	0.00356	J	0.00229	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Benzo(a)anthracene	0.0233		0.00184	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Benzo(a)pyrene	0.0260		0.00190	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Benzo(b)fluoranthene	0.0350		0.00163	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Benzo(g,h,i)perylene	0.0248		0.00188	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Benzo(k)fluoranthene	0.0119		0.00228	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Chrysene	0.0307		0.00246	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Dibenz(a,h)anthracene	0.00392	J	0.00183	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Fluoranthene	0.0409		0.00241	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Fluorene	0.00296	J	0.00218	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Indeno(1,2,3-cd)pyrene	0.0243		0.00192	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Naphthalene	0.0133	J	0.00433	0.0212	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Phenanthrene	0.0326		0.00245	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
Pyrene	0.0403		0.00212	0.00637	1	06/11/2021 12:14	<a href="#">WG1686336</a>
1-Methylnaphthalene	0.00600	J	0.00477	0.0212	1	06/11/2021 12:14	<a href="#">WG1686336</a>
2-Methylnaphthalene	0.0123	J	0.00454	0.0212	1	06/11/2021 12:14	<a href="#">WG1686336</a>
2-Chloronaphthalene	U		0.00495	0.0212	1	06/11/2021 12:14	<a href="#">WG1686336</a>
(S) Nitrobenzene-d5	61.0			14.0-149		06/11/2021 12:14	<a href="#">WG1686336</a>
(S) 2-Fluorobiphenyl	60.0			34.0-125		06/11/2021 12:14	<a href="#">WG1686336</a>
(S) p-Terphenyl-d14	67.4			23.0-120		06/11/2021 12:14	<a href="#">WG1686336</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



S58-0

Collected date/time: 06/07/21 11:09

SAMPLE RESULTS - 08

L1363905

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.2		1	06/12/2021 08:29	<a href="#">WG1685988</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	U		0.00234	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Acenaphthene	U		0.00213	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Acenaphthylene	0.00248	J	0.00220	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Benzo(a)anthracene	0.0128		0.00176	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Benzo(a)pyrene	0.0178		0.00182	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Benzo(b)fluoranthene	0.0180		0.00156	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Benzo(g,h,i)perylene	0.0163		0.00180	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Benzo(k)fluoranthene	0.00648		0.00219	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Chrysene	0.0131		0.00236	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Dibenz(a,h)anthracene	U		0.00175	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Fluoranthene	0.0197		0.00231	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Fluorene	U		0.00209	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Indeno(1,2,3-cd)pyrene	0.0154		0.00184	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Naphthalene	U		0.00416	0.0204	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Phenanthrene	0.00754		0.00235	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
Pyrene	0.0254		0.00204	0.00611	1	06/11/2021 12:34	<a href="#">WG1686336</a>
1-Methylnaphthalene	U		0.00457	0.0204	1	06/11/2021 12:34	<a href="#">WG1686336</a>
2-Methylnaphthalene	U		0.00435	0.0204	1	06/11/2021 12:34	<a href="#">WG1686336</a>
2-Chloronaphthalene	U		0.00475	0.0204	1	06/11/2021 12:34	<a href="#">WG1686336</a>
(S) Nitrobenzene-d5	45.9			14.0-149		06/11/2021 12:34	<a href="#">WG1686336</a>
(S) 2-Fluorobiphenyl	49.4			34.0-125		06/11/2021 12:34	<a href="#">WG1686336</a>
(S) p-Terphenyl-d14	51.9			23.0-120		06/11/2021 12:34	<a href="#">WG1686336</a>

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.6		1	06/12/2021 08:29	<a href="#">WG1685988</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	U		0.00233	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Acenaphthene	U		0.00212	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Acenaphthylene	0.00316	J	0.00219	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Benzo(a)anthracene	0.0139		0.00175	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Benzo(a)pyrene	0.0162		0.00182	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Benzo(b)fluoranthene	0.0185		0.00155	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Benzo(g,h,i)perylene	0.0152		0.00179	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Benzo(k)fluoranthene	0.00673		0.00218	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Chrysene	0.0183		0.00235	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Dibenz(a,h)anthracene	0.00179	J	0.00174	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Fluoranthene	0.0245		0.00230	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Fluorene	U		0.00208	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Indeno(1,2,3-cd)pyrene	0.0143		0.00184	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Naphthalene	0.00547	J	0.00414	0.0203	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Phenanthrene	0.0117		0.00234	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
Pyrene	0.0287		0.00203	0.00608	1	06/11/2021 12:54	<a href="#">WG1686336</a>
1-Methylnaphthalene	U		0.00455	0.0203	1	06/11/2021 12:54	<a href="#">WG1686336</a>
2-Methylnaphthalene	U		0.00433	0.0203	1	06/11/2021 12:54	<a href="#">WG1686336</a>
2-Chloronaphthalene	U		0.00473	0.0203	1	06/11/2021 12:54	<a href="#">WG1686336</a>
(S) Nitrobenzene-d5	41.8			14.0-149		06/11/2021 12:54	<a href="#">WG1686336</a>
(S) 2-Fluorobiphenyl	45.8			34.0-125		06/11/2021 12:54	<a href="#">WG1686336</a>
(S) p-Terphenyl-d14	51.1			23.0-120		06/11/2021 12:54	<a href="#">WG1686336</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S61-0

Collected date/time: 06/07/21 12:58

## SAMPLE RESULTS - 11

L1363905

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## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.6		1	06/12/2021 08:29	<a href="#">WG1685988</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	8.18		0.112	1.12	5	06/16/2021 16:05	<a href="#">WG1687347</a>
Cadmium	1.21		0.0955	1.12	5	06/16/2021 16:05	<a href="#">WG1687347</a>
Lead	324		0.111	2.23	5	06/16/2021 16:05	<a href="#">WG1687347</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1363905

DATE/TIME:

07/09/21 10:17

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S62-0

Collected date/time: 06/07/21 13:04

## SAMPLE RESULTS - 12

L1363905

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.4		1	06/23/2021 15:59	<a href="#">WG1693611</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	15.4		0.106	1.06	5	06/25/2021 15:12	<a href="#">WG1693489</a>
Cadmium	0.901	<u>J</u>	0.0906	1.06	5	06/25/2021 15:12	<a href="#">WG1693489</a>
Lead	102		0.105	2.12	5	06/25/2021 15:12	<a href="#">WG1693489</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1363905

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## SAMPLE RESULTS - 13

L1363905

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.5		1	06/12/2021 08:29	<a href="#">WG1685988</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	18.1		0.106	1.06	5	06/16/2021 16:23	<a href="#">WG1687347</a>
Cadmium	6.69		0.0905	1.06	5	06/16/2021 16:23	<a href="#">WG1687347</a>
Lead	176		0.105	2.12	5	06/16/2021 16:23	<a href="#">WG1687347</a>

S64-0

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## SAMPLE RESULTS - 14

L1363905

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.2		1	06/12/2021 08:29	<a href="#">WG1685988</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	18.1		0.107	1.07	5	06/16/2021 16:26	<a href="#">WG1687347</a>
Cadmium	1.40		0.0918	1.07	5	06/16/2021 16:26	<a href="#">WG1687347</a>
Lead	133		0.106	2.15	5	06/16/2021 16:26	<a href="#">WG1687347</a>

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1363905

DATE/TIME:

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## SAMPLE RESULTS - 15

L1363905

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.8		1	06/12/2021 08:29	<a href="#">WG1685988</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	85.5		1.45	4.36	1	06/12/2021 15:21	<a href="#">WG1687173</a>
Residual Range Organics (RRO)	286		18.1	54.5	5	06/13/2021 12:51	<a href="#">WG1687173</a>
(S) o-Terphenyl	56.5			18.0-148		06/13/2021 12:51	<a href="#">WG1687173</a>
(S) o-Terphenyl	51.2			18.0-148		06/12/2021 15:21	<a href="#">WG1687173</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		0.180	2.00	1	06/30/2021 22:29	<a href="#">WG1698198</a>
Cadmium	U		0.150	1.00	1	06/30/2021 22:29	<a href="#">WG1698198</a>
Lead	U		0.849	2.00	1	07/07/2021 17:14	<a href="#">WG1700969</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		33.3	100	1	06/11/2021 18:25	<a href="#">WG1685907</a>
Residual Range Organics (RRO)	145	J	83.3	250	1	06/11/2021 18:25	<a href="#">WG1685907</a>
(S) o-Terphenyl	81.0			31.0-160		06/11/2021 18:25	<a href="#">WG1685907</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Acenaphthene	U		0.0190	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Acenaphthylene	U		0.0171	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Benzo(a)anthracene	U		0.0203	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Benzo(a)pyrene	U		0.0184	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Benzo(b)fluoranthene	U		0.0168	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Benzo(k)fluoranthene	U		0.0202	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Chrysene	U		0.0179	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Fluoranthene	U		0.0270	0.100	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Fluorene	U		0.0169	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Naphthalene	U		0.0917	0.250	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Phenanthrene	U		0.0180	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
Pyrene	U		0.0169	0.0500	1	06/12/2021 02:41	<a href="#">WG1686666</a>
1-Methylnaphthalene	U		0.0687	0.250	1	06/12/2021 02:41	<a href="#">WG1686666</a>
2-Methylnaphthalene	U		0.0674	0.250	1	06/12/2021 02:41	<a href="#">WG1686666</a>
2-Chloronaphthalene	U		0.0682	0.250	1	06/12/2021 02:41	<a href="#">WG1686666</a>
(S) Nitrobenzene-d5	113			31.0-160		06/12/2021 02:41	<a href="#">WG1686666</a>
(S) 2-Fluorobiphenyl	109			48.0-148		06/12/2021 02:41	<a href="#">WG1686666</a>
(S) p-Terphenyl-d14	124			37.0-146		06/12/2021 02:41	<a href="#">WG1686666</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3666287-1 06/10/21 23:30

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1363888-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1363888-02 06/10/21 23:30 • (DUP) R3666287-3 06/10/21 23:30

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	95.3	95.5	1	0.153		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3666287-2 06/10/21 23:30

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3666708-1 06/12/21 08:29

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1363905-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1363905-11 06/12/21 08:29 • (DUP) R3666708-3 06/12/21 08:29

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	89.6	90.3	1	0.771		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3666708-2 06/12/21 08:29

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3671352-1 06/23/21 10:14

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

L1369012-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1369012-03 06/23/21 10:14 • (DUP) R3671352-3 06/23/21 10:14

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	91.8	92.0	1	0.211		10

Laboratory Control Sample (LCS)

(LCS) R3671352-2 06/23/21 10:14

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3671216-1 06/23/21 15:59

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1367028-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1367028-01 06/23/21 15:59 • (DUP) R3671216-3 06/23/21 15:59

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	51.7	51.2	1	1.05		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3671216-2 06/23/21 15:59

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3668211-1 06/16/21 15:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Cadmium	U		0.0855	1.00
Lead	U		0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3668211-2 06/16/21 15:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Cadmium	100	104	104	80.0-120	
Lead	100	99.7	99.7	80.0-120	

L1364028-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1364028-05 06/16/21 15:41 • (MS) R3668211-5 06/16/21 15:51 • (MSD) R3668211-6 06/16/21 15:54

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	106	8.28	108	109	94.2	95.7	5	75.0-125			1.39	20
Cadmium	106	1.53	110	117	103	109	5	75.0-125			5.95	20
Lead	106	359	3750	510	3210	143	5	75.0-125	J5	J3 J5	152	20

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3672211-1 06/25/21 14:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Cadmium	U		0.0855	1.00
Lead	U		0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3672211-2 06/25/21 14:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.9	94.9	80.0-120	
Cadmium	100	96.4	96.4	80.0-120	
Lead	100	91.4	91.4	80.0-120	

L1368385-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1368385-02 06/25/21 14:33 • (MS) R3672211-5 06/25/21 14:42 • (MSD) R3672211-6 06/25/21 14:46

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	126	3.47	110	107	84.3	81.9	5	75.0-125			2.83	20
Cadmium	126	0.136	115	115	90.8	90.9	5	75.0-125			0.113	20
Lead	126	13.1	116	133	81.3	94.8	5	75.0-125			13.7	20

L1368385-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1368385-06 06/25/21 14:49 • (MS) R3672211-8 06/25/21 14:55 • (MSD) R3672211-9 06/25/21 15:05

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	106	3.37	94.9	107	86.6	97.9	5	75.0-125			11.7	20
Cadmium	106	0.105	99.1	115	93.7	109	5	75.0-125			14.9	20
Lead	106	1.52	95.3	108	88.8	101	5	75.0-125			12.9	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3674236-1 06/30/21 22:22

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Arsenic	U		0.180	2.00
Cadmium	U		0.150	1.00

Laboratory Control Sample (LCS)

(LCS) R3674236-2 06/30/21 22:25

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Arsenic	50.0	45.8	91.5	80.0-120	
Cadmium	50.0	47.9	95.7	80.0-120	

L1363905-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1363905-16 06/30/21 22:29 • (MS) R3674236-4 06/30/21 22:35 • (MSD) R3674236-5 06/30/21 22:38

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Arsenic	50.0	U	45.8	45.6	91.7	91.1	1	75.0-125			0.557	20
Cadmium	50.0	U	48.3	48.7	96.5	97.3	1	75.0-125			0.801	20

1

Cp

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Tc

3

Ss

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Cn

5

Sr

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Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3676742-1 07/07/21 16:54

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Lead	U		0.849	2.00

Laboratory Control Sample (LCS)

(LCS) R3676742-2 07/07/21 16:58

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Lead	50.0	46.8	93.6	80.0-120	

L1368721-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1368721-08 07/07/21 17:01 • (MS) R3676742-4 07/07/21 17:08 • (MSD) R3676742-5 07/07/21 17:11

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Lead	50.0	0.869	46.4	47.2	91.0	92.7	1	75.0-125			1.77	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3665644-1 06/10/21 13:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		33.3	100
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	69.5			31.0-160

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3665644-2 06/10/21 13:30 • (LCSD) R3665644-3 06/10/21 13:55

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1170	1230	78.0	82.0	50.0-150			5.00	20
(S) o-Terphenyl				82.5	95.5	31.0-160				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3666523-1 06/12/21 11:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	66.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3666523-2 06/12/21 11:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	45.3	90.6	50.0-150	
(S) o-Terphenyl			86.8	18.0-148	

L1364005-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1364005-03 06/13/21 10:28 • (MS) R3667235-1 06/13/21 10:41 • (MSD) R3667235-2 06/13/21 10:54

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	57.3	U	42.4	40.8	74.0	71.9	1	50.0-150			3.98	20
(S) o-Terphenyl					70.1	67.8		18.0-148				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

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Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3666348-2 06/11/21 08:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	50.2			14.0-149
(S) 2-Fluorobiphenyl	55.5			34.0-125
(S) p-Terphenyl-d14	76.0			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3666348-1 06/11/21 08:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0636	79.5	50.0-126	
Acenaphthene	0.0800	0.0604	75.5	50.0-120	
Acenaphthylene	0.0800	0.0682	85.3	50.0-120	
Benzo(a)anthracene	0.0800	0.0653	81.6	45.0-120	
Benzo(a)pyrene	0.0800	0.0545	68.1	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0513	64.1	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0501	62.6	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0529	66.1	49.0-125	
Chrysene	0.0800	0.0606	75.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0491	61.4	47.0-125	
Fluoranthene	0.0800	0.0626	78.3	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3666348-1 06/11/21 08:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0649	81.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0520	65.0	46.0-125	
Naphthalene	0.0800	0.0578	72.3	50.0-120	
Phenanthrene	0.0800	0.0601	75.1	47.0-120	
Pyrene	0.0800	0.0629	78.6	43.0-123	
1-Methylnaphthalene	0.0800	0.0619	77.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0598	74.8	50.0-120	
2-Chloronaphthalene	0.0800	0.0597	74.6	50.0-120	
(S) Nitrobenzene-d5			72.5	14.0-149	
(S) 2-Fluorobiphenyl			73.4	34.0-125	
(S) p-Terphenyl-d14			88.2	23.0-120	

L1363932-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1363932-02 06/11/21 13:34 • (MS) R3666348-3 06/11/21 13:54 • (MSD) R3666348-4 06/11/21 14:14

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0846	U	0.0615	0.0522	72.8	61.8	1	10.0-145			16.3	30
Acenaphthene	0.0846	U	0.0586	0.0500	69.3	59.1	1	14.0-127			15.9	27
Acenaphthylene	0.0846	U	0.0651	0.0554	77.0	65.5	1	21.0-124			16.2	25
Benzo(a)anthracene	0.0846	U	0.0601	0.0493	71.0	58.3	1	10.0-139			19.6	30
Benzo(a)pyrene	0.0846	U	0.0553	0.0443	65.3	52.4	1	10.0-141			22.0	31
Benzo(b)fluoranthene	0.0846	U	0.0501	0.0404	59.3	47.8	1	10.0-140			21.5	36
Benzo(g,h,i)perylene	0.0846	U	0.0520	0.0421	61.5	49.7	1	10.0-140			21.2	33
Benzo(k)fluoranthene	0.0846	U	0.0527	0.0433	62.3	51.2	1	10.0-137			19.6	31
Chrysene	0.0846	U	0.0593	0.0498	70.1	58.9	1	10.0-145			17.4	30
Dibenz(a,h)anthracene	0.0846	U	0.0465	0.0390	55.0	46.2	1	10.0-132			17.5	31
Fluoranthene	0.0846	U	0.0615	0.0513	72.8	60.7	1	10.0-153			18.0	33
Fluorene	0.0846	U	0.0624	0.0538	73.8	63.6	1	11.0-130			14.8	29
Indeno(1,2,3-cd)pyrene	0.0846	U	0.0473	0.0389	56.0	46.0	1	10.0-137			19.5	32
Naphthalene	0.0846	U	0.0583	0.0495	68.9	58.6	1	10.0-135			16.2	27
Phenanthrene	0.0846	U	0.0597	0.0506	70.6	59.8	1	10.0-144			16.6	31
Pyrene	0.0846	U	0.0640	0.0551	75.7	65.2	1	10.0-148			14.8	35
1-Methylnaphthalene	0.0846	U	0.0606	0.0513	71.7	60.7	1	10.0-142			16.6	28
2-Methylnaphthalene	0.0846	U	0.0586	0.0504	69.3	59.7	1	10.0-137			15.0	28
2-Chloronaphthalene	0.0846	U	0.0588	0.0499	69.6	59.0	1	29.0-120			16.5	24
(S) Nitrobenzene-d5					74.4	67.1		14.0-149				
(S) 2-Fluorobiphenyl					73.6	68.8		34.0-125				
(S) p-Terphenyl-d14					83.9	81.9		23.0-120				

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3666670-2 06/11/21 23:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	103			31.0-160
(S) 2-Fluorobiphenyl	102			48.0-148
(S) p-Terphenyl-d14	119			37.0-146

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Laboratory Control Sample (LCS)

(LCS) R3666670-1 06/11/21 23:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	2.00	2.24	112	67.0-150	
Acenaphthene	2.00	2.12	106	65.0-138	
Acenaphthylene	2.00	2.36	118	66.0-140	
Benzo(a)anthracene	2.00	2.38	119	61.0-140	
Benzo(a)pyrene	2.00	2.13	106	60.0-143	
Benzo(b)fluoranthene	2.00	2.06	103	58.0-141	
Benzo(g,h,i)perylene	2.00	1.96	98.0	52.0-153	
Benzo(k)fluoranthene	2.00	2.05	103	58.0-148	
Chrysene	2.00	2.22	111	64.0-144	
Dibenz(a,h)anthracene	2.00	2.05	103	52.0-155	
Fluoranthene	2.00	2.28	114	69.0-153	

Laboratory Control Sample (LCS)

(LCS) R3666670-1 06/11/21 23:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	2.00	2.25	112	64.0-136	
Indeno(1,2,3-cd)pyrene	2.00	2.04	102	54.0-153	
Naphthalene	2.00	1.99	99.5	61.0-137	
Phenanthrene	2.00	2.18	109	62.0-137	
Pyrene	2.00	2.15	107	60.0-142	
1-Methylnaphthalene	2.00	2.13	106	66.0-142	
2-Methylnaphthalene	2.00	2.05	103	62.0-136	
2-Chloronaphthalene	2.00	2.12	106	64.0-140	
(S) Nitrobenzene-d5			112	31.0-160	
(S) 2-Fluorobiphenyl			111	48.0-148	
(S) p-Terphenyl-d14			124	37.0-146	

L1364648-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1364648-03 06/12/21 00:04 • (MS) R3666670-3 06/12/21 00:22 • (MSD) R3666670-4 06/12/21 00:39

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	1.90	0.0320	2.33	2.21	121	115	1	56.0-156			5.29	20
Acenaphthene	1.90	0.249	1.94	2.20	89.0	103	1	44.0-153			12.6	20
Acenaphthylene	1.90	U	1.99	2.24	105	118	1	53.0-150			11.8	20
Benzo(a)anthracene	1.90	U	2.34	2.20	123	116	1	47.0-151			6.17	20
Benzo(a)pyrene	1.90	U	2.06	1.93	108	102	1	45.0-146			6.52	20
Benzo(b)fluoranthene	1.90	U	2.04	1.93	107	102	1	43.0-142			5.54	20
Benzo(g,h,i)perylene	1.90	U	1.94	1.82	102	95.8	1	40.0-147			6.38	20
Benzo(k)fluoranthene	1.90	U	2.01	1.86	106	97.9	1	43.0-148			7.75	21
Chrysene	1.90	U	2.22	2.09	117	110	1	50.0-148			6.03	20
Dibenz(a,h)anthracene	1.90	U	2.00	1.84	105	96.8	1	37.0-151			8.33	20
Fluoranthene	1.90	U	2.27	2.14	119	113	1	56.0-157			5.90	20
Fluorene	1.90	0.929	2.54	3.02	84.8	110	1	48.0-148			17.3	20
Indeno(1,2,3-cd)pyrene	1.90	U	2.02	1.86	106	97.9	1	41.0-148			8.25	20
Naphthalene	1.90	0.339	2.52	2.20	115	97.9	1	10.0-160			13.6	20
Phenanthrene	1.90	1.38	3.39	3.45	106	109	1	47.0-147			1.75	20
Pyrene	1.90	U	2.18	2.08	115	109	1	51.0-148			4.69	20
1-Methylnaphthalene	1.90	0.395	2.41	2.43	106	107	1	21.0-160			0.826	20
2-Methylnaphthalene	1.90	U	2.04	1.98	107	104	1	31.0-160			2.99	20
2-Chloronaphthalene	1.90	U	1.75	1.98	92.1	104	1	52.0-148			12.3	20
(S) Nitrobenzene-d5					106	102		31.0-160				
(S) 2-Fluorobiphenyl					97.4	106		48.0-148				
(S) p-Terphenyl-d14					131	122		37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

# ACCREDITATIONS & LOCATIONS

DRAFT

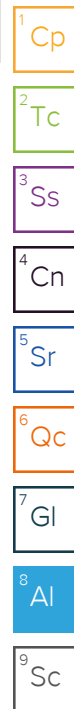
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1363905

DATE/TIME:

07/09/21 10:17

PAGE:

37 of 39



<b>Martin S. Burck Associates</b> <b>200 N. Wasco Ct., Hood River, OR 97031</b>			Billing Information:			Analysis / Container / Preservative										Chain of Custody Page <u>1</u> of <u>2</u>			
			<b>Accounts Payable</b> <b>200 N. Wasco Ct.</b> <b>Hood River, OR 97031</b>			<div style="display: flex; justify-content: space-between;"> <div> Pres Chk </div> <div> <div style="border: 1px solid black; padding: 2px;"> NWTPH-HCID NWTPH-Gx NWTPH-Dx 8260D - VOCs - RBDM List 8260D - VOCs - Full List 8270E-SIM - PAHs 6010 Total Lead, Arsenic, Cadmium 6010 Dissolved Lead (field filtered) Hold </div> </div> </div>										 Pace Analytical® National Center for Testing & Innovation			
Report to: <b>Jon White</b>			Email To: <b>jwhite@msbaenvironmental.com</b>													12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859			
Project Description: <b>North Star Coastal</b>			City/State Collected: <b>Vancouver, WA</b>													 L # <b>1363905</b>			
Phone: <b>541.387.4422</b> Fax: <b>541.387.4813</b>		Client Project # <b>North star</b>		Lab Project # <b>North star</b>												<b>J185</b>			
Collected by (print): <b>Jon White</b>		Site/Facility ID # <b>North Star</b>		P.O. # <b>North star</b>												Acctnum:			
Collected by (signature): 		<b>Rush?</b> (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #												Template:			
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed												Prelogin:			
																TSR:			
																PB:			
																Shipped Via:			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs											Remarks Sample # (lab only)	
547-1.5		grab	SS	1.5'	6/7/21	1146	1											-01	
547-1.5 dup		grab	SS	1.5'	6/7/21	1146	1											-02	
551-4		grab	SS	4'	6/7/21	1058	1											-03	
554-0		grab	SS	0	6/7/21	0956	1											-04	
555-0		grab	SS	0	6/7/21	1003	1											-05	
556-1.5		grab	SS	1.5'	6/7/21	1042	1											-06	
557-1.5		grab	SS	1.5'	6/7/21	1050	1											-07	
558-0		grab	SS	0	6/7/21	1109	1											-08	
559-0		grab	SS	0	6/7/21	1121	1											-09	
560-0		grab	SS	0	6/7/21	1134	1											-10	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other OT1 = Distilled Water OT2 = Lab Provided Water		Remarks:						pH _____ Temp _____ Flow _____ Other _____										Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input type="checkbox"/> N	
Samples returned via:		UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>		Tracking #															
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Trip Blank Received: Yes / No													
		6/8/21	15:30			HCL / MeOH TBR													
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: <b>18.2</b> °C Bottles Received: <b>26</b>												If preservation required by Login: Date/Time	
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature)		Date: <b>6/9/21</b> Time: <b>10:15</b>												Hold: Condition: NCF / <input checked="" type="checkbox"/> OK	

<b>Martin S. Burck Associates</b> 200 N. Wasco Ct., Hood River, OR 97031				Billing Information: <b>Accounts Payable</b> 200 N. Wasco Ct. Hood River, OR 97031			Pres Chk	Analysis / Container / Preservative								Chain of Custody Page <u>2</u> of <u>2</u>	
Report to: <b>Jon White</b>				Email To: <b>jwhite@msbaenvironmental.com</b>												<p>Pace Analytical<sup>®</sup> National Center for Testing &amp; Innovation</p> <p>12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859</p>	
Project Description: <b>North Star Casteel</b>				City/State Collected: <b>Vancouver, WA</b>													
Phone: <b>541.387.4422</b>		Client Project #		Lab Project #													
Fax: <b>541.387.4813</b>		<b>North Star</b>		<b>North Star</b>													
Collected by (print): <b>Jon White</b>		Site/Facility ID #		P.O. #													
Collected by (signature): [Signature]		<b>Rush?</b> (Lab MUST Be Notified)		Quote #													
Immediately Packed on Ice N ___ Y <u>✓</u>		Same Day Five Day		Date Results Needed			No.	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	8260D - VOCs - RBDM List	8260D - VOCs - Full List	8270E-SIM - PAHs	6010 Total Lead, Arsenic, Cadmium	6010 Dissolved Lead (field filtered)	Hold	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	No.										
S61-0	grab	SS	0	6/7/21	1258	1											-11
S62-0	grab	SS	0	6/7/21	1304	1											-12
S63-0	grab	SS	0	6/7/21	1344	1											-13
S64-0	grab	SS	0	6/7/21	1358	1											-14
S40-2.5	grab	SS	2.5	6/7/21	1418	1											-15
EB-6	-	OT1	-	6/7/21	0920	11											-16
Trip Blank	-	OT2	-	-	-	12											-17
* Matrix:	Remarks:																
SS - Soil   AIR - Air   F - Filter																	
GW - Groundwater   B - Bioassay																	
WW - WasteWater																	
DW - Drinking Water																	
OT - Other OT1 = Distilled Water																	
OT2 = Lab Provided Water																	
Samples returned via:	Tracking #																
___ UPS   FedEx   Courier																	
pH _____ Temp _____																	
Flow _____ Other _____																	
Relinquished by : (Signature) [Signature] Date: 6/8/21 Time: 15:30			Received by: (Signature)			Trip Blank Received: Yes/No HCL/MoH TBR											
Relinquished by : (Signature)			Received by: (Signature)			Temp: 18°C Bottles Received: 26			If preservation required by Login: Date/Time								
Relinquished by : (Signature)			Received for lab by: (Signature) T.Robertson			Date: 6/9/21 Time: 10:15			Hold:			Condition: NCF / OK					

# DRAFT

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16) Sample Date 6/8/21 (#L1364591)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1364591  
Samples Received: 06/10/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
06/08/21 10:15

Received date/time  
06/10/21 12:45

## S24-0 L1364591-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1687436	1	06/13/21 11:23	06/13/21 11:35	CMK	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1688766	1	06/16/21 10:27	06/16/21 20:14	GB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1689082	5	06/15/21 16:35	06/16/21 11:10	LAT	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/08/21 11:14

Received date/time  
06/10/21 12:45

## S65-0 L1364591-03 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1693611	1	06/23/21 15:50	06/23/21 15:59	CMK	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1693489	5	06/23/21 17:34	06/25/21 15:15	JPD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/08/21 08:57

Received date/time  
06/10/21 12:45

## EB-7 L1364591-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1698905	1	07/02/21 21:45	07/03/21 11:45	JPD	Mt. Juliet, TN

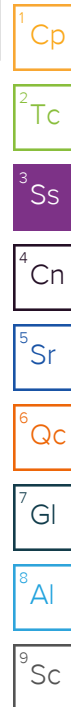
Collected by  
Jon White

Collected date/time  
06/08/21 08:25

Received date/time  
06/10/21 12:45

## UST-H2O L1364591-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1687270	1	06/14/21 05:52	06/14/21 13:35	JMB	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S24-0

Collected date/time: 06/08/21 10:15

## SAMPLE RESULTS - 01

L1364591

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.0		1	06/13/2021 11:35	<a href="#">WG1687436</a>

1 Cp

2 Tc

## Wet Chemistry by Method 7199

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	1.96		0.268	1.05	1	06/16/2021 20:14	<a href="#">WG1688766</a>

3 Ss

4 Cn

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium	235		0.312	5.26	5	06/16/2021 11:10	<a href="#">WG1689082</a>

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1364591

DATE/TIME:

07/06/21 15:59

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S65-0

Collected date/time: 06/08/21 11:14

## SAMPLE RESULTS - 03

L1364591

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.3		1	06/23/2021 15:59	<a href="#">WG1693611</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	3.61		0.108	1.08	5	06/25/2021 15:15	<a href="#">WG1693489</a>
Cadmium	0.456	J	0.0927	1.08	5	06/25/2021 15:15	<a href="#">WG1693489</a>
Lead	51.4		0.107	2.17	5	06/25/2021 15:15	<a href="#">WG1693489</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1364591

DATE/TIME:

07/06/21 15:59

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DRAFT

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chromium	U		1.24	2.00	1	07/03/2021 11:45	<a href="#">WG1698905</a>

- 1Cp
- 2Tc
- 3Ss
- 4Cn
- 5Sr
- 6Qc
- 7Gl
- 8Al
- 9Sc

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
PCB 1016	U		0.270	0.500	1	06/14/2021 13:35	<a href="#">WG1687270</a>
PCB 1221	U		0.270	0.500	1	06/14/2021 13:35	<a href="#">WG1687270</a>
PCB 1232	U		0.270	0.500	1	06/14/2021 13:35	<a href="#">WG1687270</a>
PCB 1242	U		0.270	0.500	1	06/14/2021 13:35	<a href="#">WG1687270</a>
PCB 1248	U		0.173	0.500	1	06/14/2021 13:35	<a href="#">WG1687270</a>
PCB 1254	U		0.173	0.500	1	06/14/2021 13:35	<a href="#">WG1687270</a>
PCB 1260	U		0.173	0.500	1	06/14/2021 13:35	<a href="#">WG1687270</a>
(S) Decachlorobiphenyl	50.8			10.0-128		06/14/2021 13:35	<a href="#">WG1687270</a>
(S) Tetrachloro-m-xylene	52.1			10.0-127		06/14/2021 13:35	<a href="#">WG1687270</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3666964-1 06/13/21 11:35

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1364581-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1364581-03 06/13/21 11:35 • (DUP) R3666964-3 06/13/21 11:35

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	85.6	84.0	1	1.92		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3666964-2 06/13/21 11:35

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	49.9	99.9	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3671216-1 06/23/21 15:59

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1367028-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1367028-01 06/23/21 15:59 • (DUP) R3671216-3 06/23/21 15:59

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	51.7	51.2	1	1.05		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3671216-2 06/23/21 15:59

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3668599-1 06/16/21 18:44

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Hexavalent Chromium	U		0.255	1.00

L1364464-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1364464-04 06/16/21 19:10 • (DUP) R3668599-3 06/16/21 19:19

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	U	U	1	0.000		20

L1364464-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1364464-05 06/17/21 01:44 • (DUP) R3668599-8 06/17/21 01:49

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3668599-2 06/16/21 18:49

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.9	109	80.0-120	

L1364464-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1364464-07 06/16/21 19:33 • (MS) R3668599-4 06/16/21 19:38 • (MSD) R3668599-5 06/16/21 19:53

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	U	15.4	15.3	77.2	76.7	1	75.0-125			0.626	20

L1364464-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1364464-07 06/16/21 19:33 • (MS) R3668599-6 06/16/21 19:59

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	631	U	633	100	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3667999-1 06/16/21 10:46

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium	U		0.297	5.00

Laboratory Control Sample (LCS)

(LCS) R3667999-2 06/16/21 10:50

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium	100	98.0	98.0	80.0-120	

L1365276-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1365276-03 06/16/21 10:53 • (MS) R3667999-5 06/16/21 11:03 • (MSD) R3667999-6 06/16/21 11:07

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium	118	13.5	115	126	85.6	95.4	5	75.0-125			9.65	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3672211-1 06/25/21 14:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Cadmium	U		0.0855	1.00
Lead	U		0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3672211-2 06/25/21 14:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.9	94.9	80.0-120	
Cadmium	100	96.4	96.4	80.0-120	
Lead	100	91.4	91.4	80.0-120	

L1368385-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1368385-02 06/25/21 14:33 • (MS) R3672211-5 06/25/21 14:42 • (MSD) R3672211-6 06/25/21 14:46

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	126	3.47	110	107	84.3	81.9	5	75.0-125			2.83	20
Cadmium	126	0.136	115	115	90.8	90.9	5	75.0-125			0.113	20
Lead	126	13.1	116	133	81.3	94.8	5	75.0-125			13.7	20

L1368385-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1368385-06 06/25/21 14:49 • (MS) R3672211-8 06/25/21 14:55 • (MSD) R3672211-9 06/25/21 15:05

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	106	3.37	94.9	107	86.6	97.9	5	75.0-125			11.7	20
Cadmium	106	0.105	99.1	115	93.7	109	5	75.0-125			14.9	20
Lead	106	1.52	95.3	108	88.8	101	5	75.0-125			12.9	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3675312-1 07/03/21 11:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chromium	U		1.24	2.00

Laboratory Control Sample (LCS)

(LCS) R3675312-2 07/03/21 11:28

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Chromium	50.0	46.7	93.5	80.0-120	

L1368215-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1368215-01 07/03/21 11:32 • (MS) R3675312-4 07/03/21 11:38 • (MSD) R3675312-5 07/03/21 11:42

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chromium	50.0	U	44.5	43.6	89.0	87.2	1	75.0-125			2.06	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3667336-1 06/14/21 11:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
PCB 1260	U		0.173	0.500
PCB 1016	U		0.270	0.500
PCB 1221	U		0.270	0.500
PCB 1232	U		0.270	0.500
PCB 1242	U		0.270	0.500
PCB 1248	U		0.173	0.500
PCB 1254	U		0.173	0.500
(S) Decachlorobiphenyl	33.7			10.0-128
(S) Tetrachloro-m-xylene	52.2			10.0-127

Laboratory Control Sample (LCS)

(LCS) R3667336-2 06/14/21 12:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	2.50	2.35	94.0	42.0-131	
PCB 1016	2.50	2.72	109	36.0-135	
(S) Decachlorobiphenyl			26.5	10.0-128	
(S) Tetrachloro-m-xylene			45.6	10.0-127	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
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# ACCREDITATIONS & LOCATIONS

DRAFT

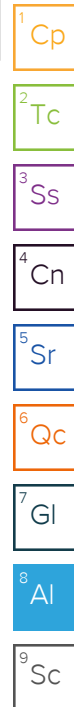
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.





# DRAFT

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17) Sample Date 6/14/21 (#L1367187)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1367187  
Samples Received: 06/16/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
06/14/21 11:22

Received date/time  
06/16/21 09:00

## MW2-5 L1367187-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1691693	1	06/22/21 09:02	06/22/21 09:30	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1691753	1.04	06/14/21 11:22	06/20/21 20:36	ADM	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
06/14/21 13:57

Received date/time  
06/16/21 09:00

## MW2-52 L1367187-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1691693	1	06/22/21 09:02	06/22/21 09:30	CMK	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1691532	5	06/21/21 17:46	06/22/21 15:19	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1692202	25	06/14/21 13:57	06/24/21 00:50	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1691753	1	06/14/21 13:57	06/20/21 20:55	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1693822	1	06/23/21 16:47	06/23/21 23:43	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1692010	1	06/22/21 08:33	06/22/21 16:25	LEA	Mt. Juliet, TN

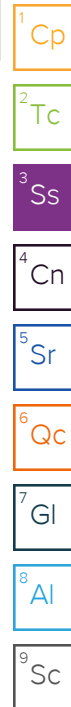
Collected by  
Jon White

Collected date/time  
06/14/21 00:00

Received date/time  
06/16/21 09:00

## TRIP BLANK L1367187-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1693908	1	06/23/21 17:55	06/23/21 17:55	ADM	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.7		1	06/22/2021 09:30	<a href="#">WG1691693</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0457	0.0625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Acrylonitrile	U		0.00451	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Benzene	0.00119	J	0.000584	0.00125	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Bromobenzene	U		0.00113	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Bromodichloromethane	U		0.000907	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Bromoform	U		0.00147	0.0313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Bromomethane	U		0.00247	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
n-Butylbenzene	U		0.00657	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
sec-Butylbenzene	U		0.00361	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
tert-Butylbenzene	U		0.00244	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Carbon disulfide	U		0.000875	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Carbon tetrachloride	U		0.00112	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Chlorobenzene	U		0.000262	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Chlorodibromomethane	U		0.000765	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Chloroethane	U		0.00213	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Chloroform	U		0.00129	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Chloromethane	U		0.00544	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
2-Chlorotoluene	U		0.00108	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
4-Chlorotoluene	U		0.000563	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2-Dibromo-3-Chloropropane	U		0.00488	0.0313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2-Dibromoethane	U		0.000811	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Dibromomethane	U		0.000938	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2-Dichlorobenzene	U		0.000532	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,3-Dichlorobenzene	U		0.000750	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,4-Dichlorobenzene	U		0.000875	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Dichlorodifluoromethane	U		0.00201	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,1-Dichloroethane	U		0.000615	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2-Dichloroethane	U		0.000812	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,1-Dichloroethene	U		0.000758	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
cis-1,2-Dichloroethene	U		0.000918	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
trans-1,2-Dichloroethene	U		0.00130	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2-Dichloropropane	U		0.00178	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,1-Dichloropropene	U		0.00101	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,3-Dichloropropane	U		0.000627	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
cis-1,3-Dichloropropene	U		0.000946	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
trans-1,3-Dichloropropene	U		0.00143	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
2,2-Dichloropropane	U		0.00173	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Di-isopropyl ether	U		0.000512	0.00125	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Ethylbenzene	U		0.000921	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Hexachloro-1,3-butadiene	U		0.00750	0.0313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Isopropylbenzene	U		0.000532	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
p-Isopropyltoluene	U		0.00319	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
2-Butanone (MEK)	U		0.0794	0.125	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Methylene Chloride	U		0.00831	0.0313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
4-Methyl-2-pentanone (MIBK)	U		0.00285	0.0313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Methyl tert-butyl ether	U		0.000438	0.00125	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Naphthalene	0.0372	C5 J4	0.00611	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
n-Propylbenzene	U		0.00119	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Styrene	U		0.000286	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,1,1,2-Tetrachloroethane	U		0.00119	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	U		0.000869	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,1,2-Trichlorotrifluoroethane	U		0.000943	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Tetrachloroethene	0.00457	<a href="#">C5</a>	0.00112	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Toluene	0.0129		0.00162	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2,3-Trichlorobenzene	U	<a href="#">J4</a>	0.00916	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2,4-Trichlorobenzene	U	<a href="#">J4</a>	0.00551	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,1,1-Trichloroethane	U		0.00115	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,1,2-Trichloroethane	U		0.000747	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Trichloroethene	U		0.000730	0.00125	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Trichlorofluoromethane	U		0.00103	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2,3-Trichloropropane	U		0.00202	0.0156	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2,4-Trimethylbenzene	0.00678		0.00197	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,2,3-Trimethylbenzene	0.00369	<a href="#">IU</a>	0.00197	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
1,3,5-Trimethylbenzene	0.00385	<a href="#">IU</a>	0.00250	0.00625	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Vinyl chloride	U		0.00146	0.00313	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
Xylenes, Total	0.0109		0.00110	0.00813	1.04	06/20/2021 20:36	<a href="#">WG1691753</a>
(S) Toluene-d8	101			75.0-131		06/20/2021 20:36	<a href="#">WG1691753</a>
(S) 4-Bromofluorobenzene	99.4			67.0-138		06/20/2021 20:36	<a href="#">WG1691753</a>
(S) 1,2-Dichloroethane-d4	93.8			70.0-130		06/20/2021 20:36	<a href="#">WG1691753</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	80.0		1	06/22/2021 09:30	<a href="#">WG1691693</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Cadmium	0.110	J	0.107	1.25	5	06/22/2021 15:19	<a href="#">WG1691532</a>
Lead	5.78		0.124	2.50	5	06/22/2021 15:19	<a href="#">WG1691532</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.32	3.88	25	06/24/2021 00:50	<a href="#">WG1692202</a>
(S) a,a,a-Trifluorotoluene(FID)	95.0			77.0-120		06/24/2021 00:50	<a href="#">WG1692202</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0567	0.0777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Acrylonitrile	U		0.00561	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Benzene	U		0.000725	0.00155	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Bromobenzene	U		0.00140	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Bromodichloromethane	U		0.00113	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Bromoform	U		0.00182	0.0388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Bromomethane	U		0.00306	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
n-Butylbenzene	U		0.00816	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
sec-Butylbenzene	U		0.00447	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
tert-Butylbenzene	U		0.00303	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Carbon disulfide	U		0.00109	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Carbon tetrachloride	U		0.00140	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Chlorobenzene	U		0.000326	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Chlorodibromomethane	U		0.000951	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Chloroethane	U		0.00264	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Chloroform	U		0.00160	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Chloromethane	U		0.00676	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
2-Chlorotoluene	U		0.00134	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
4-Chlorotoluene	U		0.000699	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2-Dibromo-3-Chloropropane	U		0.00606	0.0388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2-Dibromoethane	U		0.00101	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Dibromomethane	U		0.00117	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2-Dichlorobenzene	U		0.000660	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,3-Dichlorobenzene	U		0.000932	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,4-Dichlorobenzene	U		0.00109	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Dichlorodifluoromethane	U		0.00250	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1-Dichloroethane	U		0.000763	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2-Dichloroethane	U		0.00101	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1-Dichloroethene	U		0.000941	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
cis-1,2-Dichloroethene	U		0.00114	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
trans-1,2-Dichloroethene	U		0.00162	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2-Dichloropropane	U		0.00221	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1-Dichloropropene	U		0.00126	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,3-Dichloropropane	U		0.000778	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
cis-1,3-Dichloropropene	U		0.00118	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
trans-1,3-Dichloropropene	U		0.00177	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
2,2-Dichloropropane	U		0.00214	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Di-isopropyl ether	U		0.000637	0.00155	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Ethylbenzene	U		0.00114	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Hexachloro-1,3-butadiene	U		0.00932	0.0388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Isopropylbenzene	U		0.000660	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
p-Isopropyltoluene	U		0.00396	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
2-Butanone (MEK)	U		0.0986	0.155	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Methylene Chloride	U		0.0103	0.0388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
4-Methyl-2-pentanone (MIBK)	U		0.00354	0.0388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Methyl tert-butyl ether	U		0.000544	0.00155	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Naphthalene	U	<a href="#">J4</a>	0.00758	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
n-Propylbenzene	U		0.00148	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Styrene	U		0.000356	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1,1,2-Tetrachloroethane	U		0.00147	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1,2,2-Tetrachloroethane	U		0.00108	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1,2-Trichlorotrifluoroethane	U		0.00117	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Tetrachloroethene	0.00300	<a href="#">J</a>	0.00139	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Toluene	U		0.00202	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2,3-Trichlorobenzene	U	<a href="#">J4</a>	0.0114	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2,4-Trichlorobenzene	U	<a href="#">J4</a>	0.00684	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1,1-Trichloroethane	U		0.00143	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,1,2-Trichloroethane	U		0.000927	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Trichloroethene	U		0.000907	0.00155	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Trichlorofluoromethane	U		0.00128	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2,3-Trichloropropane	U		0.00252	0.0194	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2,4-Trimethylbenzene	U		0.00245	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,2,3-Trimethylbenzene	U		0.00245	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
1,3,5-Trimethylbenzene	U		0.00311	0.00777	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Vinyl chloride	U		0.00180	0.00388	1	06/20/2021 20:55	<a href="#">WG1691753</a>
Xylenes, Total	U		0.00137	0.0101	1	06/20/2021 20:55	<a href="#">WG1691753</a>
(S) Toluene-d8	102			75.0-131		06/20/2021 20:55	<a href="#">WG1691753</a>
(S) 4-Bromofluorobenzene	101			67.0-138		06/20/2021 20:55	<a href="#">WG1691753</a>
(S) 1,2-Dichloroethane-d4	94.9			70.0-130		06/20/2021 20:55	<a href="#">WG1691753</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U	<a href="#">J6</a>	1.66	5.00	1	06/23/2021 23:43	<a href="#">WG1693822</a>
Residual Range Organics (RRO)	U		4.16	12.5	1	06/23/2021 23:43	<a href="#">WG1693822</a>
(S) o-Terphenyl	60.3			18.0-148		06/23/2021 23:43	<a href="#">WG1693822</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00288	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Acenaphthene	U		0.00261	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Acenaphthylene	U		0.00270	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Benzo(a)anthracene	U		0.00216	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Benzo(a)pyrene	U		0.00224	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Benzo(b)fluoranthene	U		0.00191	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Benzo(g,h,i)perylene	U		0.00221	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Benzo(k)fluoranthene	U		0.00269	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Chrysene	U		0.00290	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Dibenz(a,h)anthracene	U		0.00215	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Fluoranthene	U		0.00284	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Fluorene	U		0.00256	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Indeno(1,2,3-cd)pyrene	U		0.00226	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Naphthalene	U		0.00510	0.0250	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Phenanthrene	U		0.00289	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
Pyrene	U		0.00250	0.00750	1	06/22/2021 16:25	<a href="#">WG1692010</a>
1-Methylnaphthalene	U		0.00561	0.0250	1	06/22/2021 16:25	<a href="#">WG1692010</a>
2-Methylnaphthalene	U		0.00534	0.0250	1	06/22/2021 16:25	<a href="#">WG1692010</a>
2-Chloronaphthalene	U		0.00583	0.0250	1	06/22/2021 16:25	<a href="#">WG1692010</a>
(S) Nitrobenzene-d5	57.9			14.0-149		06/22/2021 16:25	<a href="#">WG1692010</a>
(S) 2-Fluorobiphenyl	70.5			34.0-125		06/22/2021 16:25	<a href="#">WG1692010</a>
(S) p-Terphenyl-d14	83.4			23.0-120		06/22/2021 16:25	<a href="#">WG1692010</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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Collected date/time: 06/14/21 00:00

## SAMPLE RESULTS - 03

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## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	1.45	B J	0.548	10.0	1	06/23/2021 17:55	WG1693908
Acrylonitrile	U		0.0760	0.500	1	06/23/2021 17:55	WG1693908
Acrolein	U		0.758	50.0	1	06/23/2021 17:55	WG1693908
Benzene	U		0.0160	0.0400	1	06/23/2021 17:55	WG1693908
Bromobenzene	U		0.0420	0.500	1	06/23/2021 17:55	WG1693908
Bromodichloromethane	U		0.0315	0.100	1	06/23/2021 17:55	WG1693908
Bromoform	U		0.239	1.00	1	06/23/2021 17:55	WG1693908
Bromomethane	U		0.148	0.500	1	06/23/2021 17:55	WG1693908
n-Butylbenzene	U		0.153	0.500	1	06/23/2021 17:55	WG1693908
sec-Butylbenzene	U		0.101	0.500	1	06/23/2021 17:55	WG1693908
tert-Butylbenzene	U		0.0620	0.200	1	06/23/2021 17:55	WG1693908
Carbon disulfide	U		0.162	0.500	1	06/23/2021 17:55	WG1693908
Carbon tetrachloride	U		0.0432	0.200	1	06/23/2021 17:55	WG1693908
Chlorobenzene	U		0.0229	0.100	1	06/23/2021 17:55	WG1693908
Chlorodibromomethane	U		0.0180	0.100	1	06/23/2021 17:55	WG1693908
Chloroethane	U		0.0432	0.200	1	06/23/2021 17:55	WG1693908
Chloroform	U		0.0166	0.100	1	06/23/2021 17:55	WG1693908
Chloromethane	U		0.0556	0.500	1	06/23/2021 17:55	WG1693908
2-Chlorotoluene	U		0.0368	0.100	1	06/23/2021 17:55	WG1693908
4-Chlorotoluene	U		0.0452	0.200	1	06/23/2021 17:55	WG1693908
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	06/23/2021 17:55	WG1693908
1,2-Dibromoethane	U		0.0210	0.100	1	06/23/2021 17:55	WG1693908
Dibromomethane	U		0.0400	0.200	1	06/23/2021 17:55	WG1693908
1,2-Dichlorobenzene	U		0.0580	0.200	1	06/23/2021 17:55	WG1693908
1,3-Dichlorobenzene	U		0.0680	0.200	1	06/23/2021 17:55	WG1693908
1,4-Dichlorobenzene	U		0.0788	0.200	1	06/23/2021 17:55	WG1693908
Dichlorodifluoromethane	U		0.0327	0.100	1	06/23/2021 17:55	WG1693908
1,1-Dichloroethane	U		0.0230	0.100	1	06/23/2021 17:55	WG1693908
1,2-Dichloroethane	U		0.0190	0.100	1	06/23/2021 17:55	WG1693908
1,1-Dichloroethene	U		0.0200	0.100	1	06/23/2021 17:55	WG1693908
cis-1,2-Dichloroethene	U		0.0276	0.100	1	06/23/2021 17:55	WG1693908
trans-1,2-Dichloroethene	U		0.0572	0.200	1	06/23/2021 17:55	WG1693908
1,2-Dichloropropane	U		0.0508	0.200	1	06/23/2021 17:55	WG1693908
1,1-Dichloropropene	U		0.0280	0.100	1	06/23/2021 17:55	WG1693908
1,3-Dichloropropane	U		0.0700	0.200	1	06/23/2021 17:55	WG1693908
cis-1,3-Dichloropropene	U		0.0271	0.100	1	06/23/2021 17:55	WG1693908
trans-1,3-Dichloropropene	U		0.0612	0.200	1	06/23/2021 17:55	WG1693908
2,2-Dichloropropane	U		0.0317	0.100	1	06/23/2021 17:55	WG1693908
Di-isopropyl ether	U		0.0140	0.0400	1	06/23/2021 17:55	WG1693908
Ethylbenzene	U		0.0212	0.100	1	06/23/2021 17:55	WG1693908
Hexachloro-1,3-butadiene	U		0.508	1.00	1	06/23/2021 17:55	WG1693908
2-Hexanone	U		0.400	1.00	1	06/23/2021 17:55	WG1693908
Isopropylbenzene	U		0.0345	0.100	1	06/23/2021 17:55	WG1693908
p-Isopropyltoluene	U		0.0932	0.200	1	06/23/2021 17:55	WG1693908
2-Butanone (MEK)	U		0.500	1.00	1	06/23/2021 17:55	WG1693908
Methylene Chloride	U		0.265	1.00	1	06/23/2021 17:55	WG1693908
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	06/23/2021 17:55	WG1693908
Methyl tert-butyl ether	U		0.0118	0.0400	1	06/23/2021 17:55	WG1693908
Naphthalene	U	J4	0.124	0.500	1	06/23/2021 17:55	WG1693908
n-Propylbenzene	U		0.0472	0.200	1	06/23/2021 17:55	WG1693908
Styrene	U		0.109	0.500	1	06/23/2021 17:55	WG1693908
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	06/23/2021 17:55	WG1693908
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	06/23/2021 17:55	WG1693908
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	06/23/2021 17:55	WG1693908
Tetrachloroethene	U		0.0280	0.100	1	06/23/2021 17:55	WG1693908
Toluene	U		0.0500	0.200	1	06/23/2021 17:55	WG1693908

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

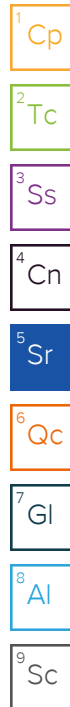
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## SAMPLE RESULTS - 03

L1367187

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichlorobenzene	U		0.0250	0.500	1	06/23/2021 17:55	<a href="#">WG1693908</a>
1,2,4-Trichlorobenzene	U		0.193	0.500	1	06/23/2021 17:55	<a href="#">WG1693908</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	06/23/2021 17:55	<a href="#">WG1693908</a>
1,1,2-Trichloroethane	U		0.0353	0.100	1	06/23/2021 17:55	<a href="#">WG1693908</a>
Trichloroethene	U		0.0160	0.0400	1	06/23/2021 17:55	<a href="#">WG1693908</a>
Trichlorofluoromethane	U		0.0200	0.100	1	06/23/2021 17:55	<a href="#">WG1693908</a>
1,2,3-Trichloropropane	U		0.204	0.500	1	06/23/2021 17:55	<a href="#">WG1693908</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	06/23/2021 17:55	<a href="#">WG1693908</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	06/23/2021 17:55	<a href="#">WG1693908</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	06/23/2021 17:55	<a href="#">WG1693908</a>
Vinyl chloride	U		0.0273	0.100	1	06/23/2021 17:55	<a href="#">WG1693908</a>
Xylenes, Total	U		0.191	0.260	1	06/23/2021 17:55	<a href="#">WG1693908</a>
(S) Toluene-d8	103			75.0-131		06/23/2021 17:55	<a href="#">WG1693908</a>
(S) 4-Bromofluorobenzene	102			67.0-138		06/23/2021 17:55	<a href="#">WG1693908</a>
(S) 1,2-Dichloroethane-d4	100			70.0-130		06/23/2021 17:55	<a href="#">WG1693908</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

Method Blank (MB)

(MB) R3670694-1 06/22/21 09:30

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Total Solids	0.000			

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

L1367181-44 Original Sample (OS) • Duplicate (DUP)

(OS) L1367181-44 06/22/21 09:30 • (DUP) R3670694-3 06/22/21 09:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Total Solids	84.4	83.0	1	1.67		10

7Gl

8Al

Laboratory Control Sample (LCS)

(LCS) R3670694-2 06/22/21 09:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

9Sc

Method Blank (MB)

(MB) R3670482-1 06/22/21 14:23

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Cadmium	U		0.0855	1.00
Lead	0.102	⬇	0.0990	2.00

Laboratory Control Sample (LCS)

(LCS) R3670482-2 06/22/21 14:26

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Cadmium	100	96.7	96.7	80.0-120	
Lead	100	91.6	91.6	80.0-120	

L1366386-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1366386-01 06/22/21 14:29 • (MS) R3670482-5 06/22/21 14:39 • (MSD) R3670482-6 06/22/21 14:42

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Cadmium	100	0.706	92.4	87.4	91.7	86.6	5	75.0-125			5.67	20
Lead	100	2.61	86.6	83.0	84.0	80.3	5	75.0-125			4.33	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3671140-2 06/23/21 16:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	U		0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	93.8			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3671140-1 06/23/21 15:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.50	6.10	111	71.0-124	
(S) a,a,a-Trifluorotoluene(FID)			114	77.0-120	

L1367187-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1367187-02 06/24/21 00:50 • (MS) R3671140-3 06/24/21 01:56 • (MSD) R3671140-4 06/24/21 02:18

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	177	U	99.0	118	55.9	66.8	25	10.0-149			17.7	27
(S) a,a,a-Trifluorotoluene(FID)					105	105		77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3671386-3 06/20/21 13:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon disulfide	U		0.000700	0.0125
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3671386-3 06/20/21 13:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Isopropylbenzene	U		0.000425	0.00250
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.123		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	104			75.0-131
(S) 4-Bromofluorobenzene	101			67.0-138
(S) 1,2-Dichloroethane-d4	89.3			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3671386-1 06/20/21 12:36 • (LCSD) R3671386-2 06/20/21 12:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.657	0.694	105	111	10.0-160			5.48	31
Acrylonitrile	0.625	0.642	0.676	103	108	45.0-153			5.16	22
Benzene	0.125	0.145	0.144	116	115	70.0-123			0.692	20
Bromobenzene	0.125	0.135	0.134	108	107	73.0-121			0.743	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3671386-1 06/20/21 12:36 • (LCSD) R3671386-2 06/20/21 12:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromodichloromethane	0.125	0.132	0.128	106	102	73.0-121			3.08	20
Bromoform	0.125	0.112	0.114	89.6	91.2	64.0-132			1.77	20
Bromomethane	0.125	0.140	0.137	112	110	56.0-147			2.17	20
n-Butylbenzene	0.125	0.135	0.139	108	111	68.0-135			2.92	20
sec-Butylbenzene	0.125	0.136	0.134	109	107	74.0-130			1.48	20
tert-Butylbenzene	0.125	0.131	0.135	105	108	75.0-127			3.01	20
Carbon disulfide	0.125	0.144	0.134	115	107	56.0-133			7.19	20
Carbon tetrachloride	0.125	0.131	0.131	105	105	66.0-128			0.000	20
Chlorobenzene	0.125	0.140	0.139	112	111	76.0-128			0.717	20
Chlorodibromomethane	0.125	0.122	0.125	97.6	100	74.0-127			2.43	20
Chloroethane	0.125	0.129	0.142	103	114	61.0-134			9.59	20
Chloroform	0.125	0.145	0.144	116	115	72.0-123			0.692	20
Chloromethane	0.125	0.155	0.150	124	120	51.0-138			3.28	20
2-Chlorotoluene	0.125	0.135	0.129	108	103	75.0-124			4.55	20
4-Chlorotoluene	0.125	0.136	0.134	109	107	75.0-124			1.48	20
1,2-Dibromo-3-Chloropropane	0.125	0.130	0.139	104	111	59.0-130			6.69	20
1,2-Dibromoethane	0.125	0.142	0.144	114	115	74.0-128			1.40	20
Dibromomethane	0.125	0.134	0.135	107	108	75.0-122			0.743	20
1,2-Dichlorobenzene	0.125	0.141	0.143	113	114	76.0-124			1.41	20
1,3-Dichlorobenzene	0.125	0.140	0.140	112	112	76.0-125			0.000	20
1,4-Dichlorobenzene	0.125	0.139	0.136	111	109	77.0-121			2.18	20
Dichlorodifluoromethane	0.125	0.131	0.135	105	108	43.0-156			3.01	20
1,1-Dichloroethane	0.125	0.124	0.125	99.2	100	70.0-127			0.803	20
1,2-Dichloroethane	0.125	0.135	0.134	108	107	65.0-131			0.743	20
1,1-Dichloroethene	0.125	0.147	0.148	118	118	65.0-131			0.678	20
cis-1,2-Dichloroethene	0.125	0.135	0.133	108	106	73.0-125			1.49	20
trans-1,2-Dichloroethene	0.125	0.132	0.137	106	110	71.0-125			3.72	20
1,2-Dichloropropane	0.125	0.133	0.137	106	110	74.0-125			2.96	20
1,1-Dichloropropene	0.125	0.149	0.150	119	120	73.0-125			0.669	20
1,3-Dichloropropane	0.125	0.137	0.137	110	110	80.0-125			0.000	20
cis-1,3-Dichloropropene	0.125	0.122	0.126	97.6	101	76.0-127			3.23	20
trans-1,3-Dichloropropene	0.125	0.121	0.126	96.8	101	73.0-127			4.05	20
2,2-Dichloropropane	0.125	0.136	0.140	109	112	59.0-135			2.90	20
Di-isopropyl ether	0.125	0.130	0.135	104	108	60.0-136			3.77	20
Ethylbenzene	0.125	0.141	0.146	113	117	74.0-126			3.48	20
Hexachloro-1,3-butadiene	0.125	0.146	0.153	117	122	57.0-150			4.68	20
Isopropylbenzene	0.125	0.142	0.144	114	115	72.0-127			1.40	20
p-Isopropyltoluene	0.125	0.135	0.139	108	111	72.0-133			2.92	20
2-Butanone (MEK)	0.625	0.671	0.675	107	108	30.0-160			0.594	24
Methylene Chloride	0.125	0.130	0.129	104	103	68.0-123			0.772	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3671386-1 06/20/21 12:36 • (LCSD) R3671386-2 06/20/21 12:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.625	0.674	0.670	108	107	56.0-143			0.595	20
Methyl tert-butyl ether	0.125	0.121	0.123	96.8	98.4	66.0-132			1.64	20
Naphthalene	0.125	0.165	0.173	132	138	59.0-130	J4	J4	4.73	20
n-Propylbenzene	0.125	0.136	0.134	109	107	74.0-126			1.48	20
Styrene	0.125	0.138	0.135	110	108	72.0-127			2.20	20
1,1,1,2-Tetrachloroethane	0.125	0.133	0.128	106	102	74.0-129			3.83	20
1,1,2,2-Tetrachloroethane	0.125	0.134	0.128	107	102	68.0-128			4.58	20
Tetrachloroethene	0.125	0.153	0.150	122	120	70.0-136			1.98	20
Toluene	0.125	0.141	0.138	113	110	75.0-121			2.15	20
1,1,2-Trichlorotrifluoroethane	0.125	0.163	0.156	130	125	61.0-139			4.39	20
1,2,3-Trichlorobenzene	0.125	0.181	0.187	145	150	59.0-139	J4	J4	3.26	20
1,2,4-Trichlorobenzene	0.125	0.169	0.173	135	138	62.0-137		J4	2.34	20
1,1,1-Trichloroethane	0.125	0.139	0.136	111	109	69.0-126			2.18	20
1,1,2-Trichloroethane	0.125	0.129	0.128	103	102	78.0-123			0.778	20
Trichloroethene	0.125	0.147	0.139	118	111	76.0-126			5.59	20
Trichlorofluoromethane	0.125	0.135	0.130	108	104	61.0-142			3.77	20
1,2,3-Trichloropropane	0.125	0.126	0.120	101	96.0	67.0-129			4.88	20
1,2,3-Trimethylbenzene	0.125	0.132	0.132	106	106	74.0-124			0.000	20
1,2,4-Trimethylbenzene	0.125	0.130	0.128	104	102	70.0-126			1.55	20
1,3,5-Trimethylbenzene	0.125	0.132	0.129	106	103	73.0-127			2.30	20
Vinyl chloride	0.125	0.132	0.137	106	110	63.0-134			3.72	20
Xylenes, Total	0.375	0.433	0.435	115	116	72.0-127			0.461	20
(S) Toluene-d8				99.2	102	75.0-131				
(S) 4-Bromofluorobenzene				99.9	102	67.0-138				
(S) 1,2-Dichloroethane-d4				98.9	99.2	70.0-130				

L1366711-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1366711-17 06/20/21 15:51 • (MS) R3671386-4 06/20/21 22:12 • (MSD) R3671386-5 06/20/21 22:31

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acrylonitrile	0.869	U	0.700	0.864	80.6	99.4	1	10.0-160			21.0	40
Bromobenzene	0.174	U	0.156	0.128	89.9	73.9	1	10.0-156			19.5	38
Acetone	0.869	U	0.575	0.618	66.2	71.2	1	10.0-160			7.21	40
n-Butylbenzene	0.174	U	0.159	0.101	91.7	58.1	1	10.0-160		J3	44.9	40
Benzene	0.174	U	0.150	0.105	86.4	60.2	1	10.0-149			35.8	37
sec-Butylbenzene	0.174	U	0.159	0.108	91.7	62.0	1	10.0-159			38.7	39
tert-Butylbenzene	0.174	U	0.149	0.102	85.8	58.9	1	10.0-156			37.2	39
Bromodichloromethane	0.174	U	0.146	0.124	84.2	71.4	1	10.0-143			16.5	37

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L1366711-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1366711-17 06/20/21 15:51 • (MS) R3671386-4 06/20/21 22:12 • (MSD) R3671386-5 06/20/21 22:31

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromoform	0.174	U	0.153	0.152	87.9	87.4	1	10.0-146			0.523	36
Bromomethane	0.174	U	0.0963	0.0545	55.4	31.4	1	10.0-149		J3	55.4	38
2-Chlorotoluene	0.174	U	0.148	0.115	85.3	66.0	1	10.0-159			25.6	38
4-Chlorotoluene	0.174	U	0.145	0.114	83.6	65.9	1	10.0-155			23.7	39
Carbon disulfide	0.174	U	0.119	0.0666	68.6	38.3	1	10.0-145		J3	56.6	39
Carbon tetrachloride	0.174	U	0.140	0.0888	80.8	51.1	1	10.0-145		J3	45.1	37
Chlorobenzene	0.174	U	0.152	0.116	87.5	66.9	1	10.0-152			26.7	39
Chlorodibromomethane	0.174	U	0.151	0.146	86.9	83.9	1	10.0-146			3.44	37
Dibromomethane	0.174	U	0.155	0.149	89.0	85.7	1	10.0-147			3.78	35
Chloroethane	0.174	U	0.0563	0.0357	32.4	20.6	1	10.0-146		J3	44.7	40
Chloroform	0.174	U	0.150	0.114	86.6	65.5	1	10.0-146			27.7	37
Chloromethane	0.174	U	0.117	0.0744	67.4	42.8	1	10.0-159		J3	44.6	37
1,2-Dibromo-3-Chloropropane	0.174	U	0.155	0.175	89.4	101	1	10.0-151			12.2	39
1,2-Dibromoethane	0.174	U	0.171	0.169	98.2	97.2	1	10.0-148			0.939	34
1,2-Dichlorobenzene	0.174	U	0.169	0.148	97.2	85.4	1	10.0-155			13.0	37
1,3-Dichlorobenzene	0.174	U	0.157	0.132	90.2	76.0	1	10.0-153			17.1	38
1,4-Dichlorobenzene	0.174	U	0.156	0.129	89.6	74.1	1	10.0-151			18.9	38
1,1-Dichloropropene	0.174	U	0.145	0.0843	83.6	48.5	1	10.0-153		J3	53.1	35
1,3-Dichloropropane	0.174	U	0.167	0.159	96.3	91.7	1	10.0-154			4.88	35
Dichlorodifluoromethane	0.174	U	0.128	0.0724	73.5	41.7	1	10.0-160		J3	55.3	35
1,1-Dichloroethane	0.174	U	0.131	0.0891	75.7	51.3	1	10.0-147		J3	38.4	37
1,2-Dichloroethane	0.174	U	0.156	0.144	89.9	82.8	1	10.0-148			8.18	35
2,2-Dichloropropane	0.174	U	0.0892	0.0446	51.4	25.7	1	10.0-138		J3	66.7	36
1,1-Dichloroethene	0.174	U	0.146	0.0864	84.0	49.7	1	10.0-155		J3	51.3	37
cis-1,2-Dichloroethene	0.174	U	0.139	0.104	80.1	59.6	1	10.0-149			29.3	37
Di-isopropyl ether	0.174	U	0.152	0.130	87.3	75.0	1	10.0-147			15.1	36
trans-1,2-Dichloroethene	0.174	U	0.133	0.0830	76.4	47.8	1	10.0-150		J3	46.1	37
1,2-Dichloropropane	0.174	U	0.152	0.115	87.3	66.4	1	10.0-148			27.2	37
Hexachloro-1,3-butadiene	0.174	U	0.295	0.229	170	132	1	10.0-160	J5		24.9	40
cis-1,3-Dichloropropene	0.174	U	0.142	0.123	81.8	70.6	1	10.0-151			14.8	37
trans-1,3-Dichloropropene	0.174	U	0.150	0.137	86.1	78.9	1	10.0-148			8.78	37
p-Isopropyltoluene	0.174	U	0.163	0.111	93.6	63.7	1	10.0-160			38.0	40
Ethylbenzene	0.174	U	0.146	0.101	84.0	58.0	1	10.0-160			36.7	38
Naphthalene	0.174	U	0.242	0.258	139	149	1	10.0-160			6.37	36
Isopropylbenzene	0.174	U	0.150	0.0991	86.5	57.1	1	10.0-155		J3	41.0	38
n-Propylbenzene	0.174	U	0.145	0.0923	83.3	53.1	1	10.0-158		J3	44.3	38
2-Butanone (MEK)	0.869	U	0.821	0.875	94.5	101	1	10.0-160			6.39	40
1,1,1,2-Tetrachloroethane	0.174	U	0.143	0.120	82.3	68.9	1	10.0-149			17.7	39
Methylene Chloride	0.174	U	0.143	0.103	82.2	59.4	1	10.0-141			32.1	37

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1366711-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1366711-17 06/20/21 15:51 • (MS) R3671386-4 06/20/21 22:12 • (MSD) R3671386-5 06/20/21 22:31

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.869	U	0.797	0.869	91.7	100	1	10.0-160			8.61	35
Methyl tert-butyl ether	0.174	U	0.147	0.135	84.7	78.0	1	11.0-147			8.23	35
Styrene	0.174	U	0.152	0.119	87.3	68.6	1	10.0-160			24.0	40
1,1,2,2-Tetrachloroethane	0.174	U	0.504	0.486	290	280	1	10.0-160	J5	J5	3.54	35
1,2,3-Trichloropropane	0.174	U	0.153	0.124	88.0	71.4	1	10.0-156			20.8	35
Tetrachloroethene	0.174	U	0.146	0.0856	84.2	49.3	1	10.0-156		J3	52.4	39
1,2,3-Trimethylbenzene	0.174	U	0.153	0.126	88.1	72.8	1	10.0-160			19.1	36
1,2,4-Trimethylbenzene	0.174	U	0.145	0.110	83.6	63.3	1	10.0-160			27.6	36
Toluene	0.174	U	0.148	0.103	85.0	59.4	1	10.0-156			35.5	38
1,1,2-Trichlorotrifluoroethane	0.174	U	0.169	0.0869	97.2	50.0	1	10.0-160		J3	64.2	36
1,3,5-Trimethylbenzene	0.174	U	0.143	0.102	82.4	59.0	1	10.0-160			33.1	38
1,2,3-Trichlorobenzene	0.174	U	0.223	0.237	128	137	1	10.0-160			6.23	40
1,2,4-Trichlorobenzene	0.174	U	0.228	0.204	131	117	1	10.0-160			11.1	40
1,1,1-Trichloroethane	0.174	U	0.136	0.0800	78.4	46.1	1	10.0-144		J3	52.0	35
1,1,2-Trichloroethane	0.174	U	0.175	0.166	101	95.4	1	10.0-160			5.61	35
Trichloroethene	0.174	U	0.156	0.105	90.1	60.2	1	10.0-156		J3	39.8	38
Trichlorofluoromethane	0.174	U	0.0865	0.0422	49.8	24.3	1	10.0-160		J3	68.8	40
Vinyl chloride	0.174	U	0.117	0.0639	67.3	36.8	1	10.0-160		J3	58.7	37
Xylenes, Total	0.521	U	0.454	0.327	87.2	62.7	1	10.0-160			32.7	38
(S) Toluene-d8					101	103		75.0-131				
(S) 4-Bromofluorobenzene					122	122		67.0-138				
(S) 1,2-Dichloroethane-d4					97.3	96.4		70.0-130				

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R3671531-2 06/23/21 13:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	1.00		0.548	10.0
Acrolein	U		0.758	50.0
Acrylonitrile	U		0.0760	0.500
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon disulfide	U		0.162	0.500
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,2-Dichlorobenzene	U		0.0580	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100

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Method Blank (MB)

(MB) R3671531-2 06/23/21 13:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.508	1.00
2-Hexanone	U		0.400	1.00
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	U		0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
(S) Toluene-d8	103			75.0-131
(S) 4-Bromofluorobenzene	101			67.0-138
(S) 1,2-Dichloroethane-d4	99.2			70.0-130

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3671531-1 06/23/21 13:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	25.3	101	10.0-160	
Acrolein	25.0	21.5	86.0	10.0-160	

Laboratory Control Sample (LCS)

(LCS) R3671531-1 06/23/21 13:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Acrylonitrile	25.0	24.3	97.2	45.0-153	
Benzene	5.00	5.65	113	70.0-123	
Bromobenzene	5.00	5.38	108	73.0-121	
Bromodichloromethane	5.00	5.31	106	73.0-121	
Bromoform	5.00	5.36	107	64.0-132	
Bromomethane	5.00	5.31	106	56.0-147	
n-Butylbenzene	5.00	5.10	102	68.0-135	
sec-Butylbenzene	5.00	5.21	104	74.0-130	
tert-Butylbenzene	5.00	4.98	99.6	75.0-127	
Carbon disulfide	5.00	5.78	116	56.0-133	
Carbon tetrachloride	5.00	5.73	115	66.0-128	
Chlorobenzene	5.00	5.50	110	76.0-128	
Chlorodibromomethane	5.00	5.11	102	74.0-127	
Chloroethane	5.00	5.43	109	61.0-134	
Chloroform	5.00	6.02	120	72.0-123	
Chloromethane	5.00	5.55	111	51.0-138	
2-Chlorotoluene	5.00	5.46	109	75.0-124	
4-Chlorotoluene	5.00	5.42	108	75.0-124	
1,2-Dibromo-3-Chloropropane	5.00	5.37	107	59.0-130	
1,2-Dibromoethane	5.00	5.40	108	74.0-128	
Dibromomethane	5.00	5.48	110	75.0-122	
1,2-Dichlorobenzene	5.00	5.31	106	76.0-124	
1,3-Dichlorobenzene	5.00	5.29	106	76.0-125	
1,4-Dichlorobenzene	5.00	5.16	103	77.0-121	
Dichlorodifluoromethane	5.00	5.18	104	43.0-156	
1,1-Dichloroethane	5.00	5.04	101	70.0-127	
1,2-Dichloroethane	5.00	5.51	110	65.0-131	
1,1-Dichloroethene	5.00	5.94	119	65.0-131	
cis-1,2-Dichloroethene	5.00	5.29	106	73.0-125	
trans-1,2-Dichloroethene	5.00	5.67	113	71.0-125	
1,2-Dichloropropane	5.00	5.27	105	74.0-125	
1,1-Dichloropropene	5.00	5.80	116	73.0-125	
1,3-Dichloropropane	5.00	5.42	108	80.0-125	
cis-1,3-Dichloropropene	5.00	5.06	101	76.0-127	
trans-1,3-Dichloropropene	5.00	5.16	103	73.0-127	
2,2-Dichloropropane	5.00	5.88	118	59.0-135	
Di-isopropyl ether	5.00	5.43	109	60.0-136	
Ethylbenzene	5.00	5.45	109	74.0-126	
Hexachloro-1,3-butadiene	5.00	5.92	118	57.0-150	
2-Hexanone	25.0	25.2	101	54.0-147	

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Cp

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Sc

Laboratory Control Sample (LCS)

(LCS) R3671531-1 06/23/21 13:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Isopropylbenzene	5.00	5.63	113	72.0-127	
p-Isopropyltoluene	5.00	5.10	102	72.0-133	
2-Butanone (MEK)	25.0	27.9	112	30.0-160	
Methylene Chloride	5.00	5.36	107	68.0-123	
4-Methyl-2-pentanone (MIBK)	25.0	26.2	105	56.0-143	
Methyl tert-butyl ether	5.00	4.77	95.4	66.0-132	
Naphthalene	5.00	6.58	132	59.0-130	J4
n-Propylbenzene	5.00	5.16	103	74.0-126	
Styrene	5.00	5.24	105	72.0-127	
1,1,1,2-Tetrachloroethane	5.00	5.29	106	74.0-129	
1,1,2,2-Tetrachloroethane	5.00	4.76	95.2	68.0-128	
Tetrachloroethene	5.00	5.91	118	70.0-136	
Toluene	5.00	5.49	110	75.0-121	
1,1,2-Trichlorotrifluoroethane	5.00	6.14	123	61.0-139	
1,2,3-Trichlorobenzene	5.00	6.86	137	59.0-139	
1,2,4-Trichlorobenzene	5.00	5.98	120	62.0-137	
1,1,1-Trichloroethane	5.00	5.33	107	69.0-126	
1,1,2-Trichloroethane	5.00	4.97	99.4	78.0-123	
Trichloroethene	5.00	5.75	115	76.0-126	
Trichlorofluoromethane	5.00	5.59	112	61.0-142	
1,2,3-Trichloropropane	5.00	4.74	94.8	67.0-129	
1,2,3-Trimethylbenzene	5.00	5.11	102	74.0-124	
1,2,4-Trimethylbenzene	5.00	4.90	98.0	70.0-126	
1,3,5-Trimethylbenzene	5.00	5.02	100	73.0-127	
Vinyl chloride	5.00	5.15	103	63.0-134	
Xylenes, Total	15.0	17.2	115	72.0-127	
(S) Toluene-d8			102	75.0-131	
(S) 4-Bromofluorobenzene			103	67.0-138	
(S) 1,2-Dichloroethane-d4			102	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3671392-1 06/23/21 23:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	71.2			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3671392-2 06/23/21 23:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	41.2	82.4	50.0-150	
(S) o-Terphenyl			92.5	18.0-148	

L1367187-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1367187-02 06/23/21 23:43 • (MS) R3671392-3 06/23/21 23:56 • (MSD) R3671392-4 06/24/21 00:10

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	61.8	U	36.8	30.4	59.5	49.6	1	50.0-150		J6	19.0	20
(S) o-Terphenyl					59.1	51.5		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3670421-2 06/22/21 11:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	54.9			14.0-149
(S) 2-Fluorobiphenyl	68.6			34.0-125
(S) p-Terphenyl-d14	86.8			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3670421-1 06/22/21 11:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0621	77.6	50.0-126	
Acenaphthene	0.0800	0.0577	72.1	50.0-120	
Acenaphthylene	0.0800	0.0632	79.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0629	78.6	45.0-120	
Benzo(a)pyrene	0.0800	0.0504	63.0	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0529	66.1	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0516	64.5	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0548	68.5	49.0-125	
Chrysene	0.0800	0.0606	75.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0507	63.4	47.0-125	
Fluoranthene	0.0800	0.0655	81.9	49.0-129	



Laboratory Control Sample (LCS)

(LCS) R3670421-1 06/22/21 11:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0664	83.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0541	67.6	46.0-125	
Naphthalene	0.0800	0.0551	68.9	50.0-120	
Phenanthrene	0.0800	0.0610	76.3	47.0-120	
Pyrene	0.0800	0.0616	77.0	43.0-123	
1-Methylnaphthalene	0.0800	0.0607	75.9	51.0-121	
2-Methylnaphthalene	0.0800	0.0579	72.4	50.0-120	
2-Chloronaphthalene	0.0800	0.0581	72.6	50.0-120	
(S) Nitrobenzene-d5			64.6	14.0-149	
(S) 2-Fluorobiphenyl			75.5	34.0-125	
(S) p-Terphenyl-d14			87.3	23.0-120	

L1366824-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1366824-14 06/22/21 14:25 • (MS) R3670421-3 06/22/21 14:45 • (MSD) R3670421-4 06/22/21 15:05

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0869	U	0.0456	0.0483	52.5	55.6	1	10.0-145			5.81	30
Acenaphthene	0.0869	U	0.0450	0.0488	51.8	56.2	1	14.0-127			8.00	27
Acenaphthylene	0.0869	U	0.0485	0.0524	55.8	60.3	1	21.0-124			7.89	25
Benzo(a)anthracene	0.0869	U	0.0420	0.0456	48.3	52.5	1	10.0-139			8.31	30
Benzo(a)pyrene	0.0869	U	0.0415	0.0445	47.8	51.2	1	10.0-141			6.88	31
Benzo(b)fluoranthene	0.0869	U	0.0398	0.0430	45.8	49.5	1	10.0-140			7.69	36
Benzo(g,h,i)perylene	0.0869	U	0.0413	0.0445	47.5	51.2	1	10.0-140			7.43	33
Benzo(k)fluoranthene	0.0869	U	0.0411	0.0436	47.3	50.1	1	10.0-137			5.91	31
Chrysene	0.0869	U	0.0454	0.0490	52.2	56.4	1	10.0-145			7.71	30
Dibenz(a,h)anthracene	0.0869	U	0.0372	0.0397	42.8	45.7	1	10.0-132			6.51	31
Fluoranthene	0.0869	U	0.0472	0.0498	54.3	57.3	1	10.0-153			5.39	33
Fluorene	0.0869	U	0.0513	0.0555	59.0	63.9	1	11.0-130			7.88	29
Indeno(1,2,3-cd)pyrene	0.0869	U	0.0384	0.0399	44.2	45.9	1	10.0-137			3.77	32
Naphthalene	0.0869	U	0.0499	0.0503	57.5	57.9	1	10.0-135			0.681	27
Phenanthrene	0.0869	U	0.0458	0.0488	52.7	56.2	1	10.0-144			6.25	31
Pyrene	0.0869	U	0.0470	0.0506	54.1	58.2	1	10.0-148			7.46	35
1-Methylnaphthalene	0.0869	U	0.0536	0.0527	61.6	60.6	1	10.0-142			1.71	28
2-Methylnaphthalene	0.0869	U	0.0579	0.0503	66.6	57.9	1	10.0-137			14.1	28
2-Chloronaphthalene	0.0869	U	0.0469	0.0511	53.9	58.8	1	29.0-120			8.59	24
(S) Nitrobenzene-d5					51.4	54.6		14.0-149				
(S) 2-Fluorobiphenyl					60.1	63.1		34.0-125				
(S) p-Terphenyl-d14					62.9	67.3		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
C5	The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

# ACCREDITATIONS & LOCATIONS

DRAFT

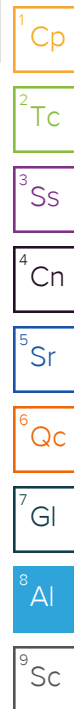
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1367187

DATE/TIME:

06/25/21 10:41

PAGE:

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# DRAFT

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18) Sample Date 6/24/21 (#L1371625)

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1371625  
Samples Received: 06/26/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc

# SAMPLE SUMMARY

DRAFT

## S51-5 L1371625-01 Solid

Collected by  
Jon White

Collected date/time  
06/24/21 13:33

Received date/time  
06/26/21 09:30

<sup>1</sup>Cp

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1699112	1	07/02/21 14:37	07/02/21 14:58	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1699773	1	07/03/21 14:25	07/06/21 16:41	LEA	Mt. Juliet, TN

<sup>2</sup>Tc

<sup>3</sup>Ss

## S51-6 L1371625-02 Solid

Collected by  
Jon White

Collected date/time  
06/24/21 13:56

Received date/time  
06/26/21 09:30

<sup>4</sup>Cn

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1699112	1	07/02/21 14:37	07/02/21 14:58	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1699773	1	07/03/21 14:25	07/05/21 10:13	SHG	Mt. Juliet, TN

<sup>5</sup>Sr

<sup>6</sup>Qc

## S66-1.5 L1371625-03 Solid

Collected by  
Jon White

Collected date/time  
06/24/21 14:11

Received date/time  
06/26/21 09:30

<sup>7</sup>Gl

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1699112	1	07/02/21 14:37	07/02/21 14:58	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1699773	1	07/03/21 14:25	07/06/21 16:59	LEA	Mt. Juliet, TN

<sup>8</sup>Al

<sup>9</sup>Sc

## EB-8 L1371625-04 GW

Collected by  
Jon White


Collected date/time  
06/24/21 13:10

Received date/time  
06/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1698042	1	06/30/21 22:46	07/01/21 10:34	LEA	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.0		1	07/02/2021 14:58	<a href="#">WG1699112</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.0129		0.00256	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Acenaphthene	0.00287	J	0.00232	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Acenaphthylene	0.0101		0.00240	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Benzo(a)anthracene	0.0698		0.00192	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Benzo(a)pyrene	0.0989		0.00199	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Benzo(b)fluoranthene	0.121		0.00170	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Benzo(g,h,i)perylene	0.111		0.00197	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Benzo(k)fluoranthene	0.0386		0.00239	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Chrysene	0.0760		0.00258	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Dibenz(a,h)anthracene	0.0169		0.00191	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Fluoranthene	0.119		0.00252	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Fluorene	0.00349	J	0.00228	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Indeno(1,2,3-cd)pyrene	0.0968		0.00201	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Naphthalene	0.0296		0.00454	0.0222	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Phenanthrene	0.0824		0.00257	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
Pyrene	0.132		0.00222	0.00667	1	07/06/2021 16:41	<a href="#">WG1699773</a>
1-Methylnaphthalene	0.0138	J	0.00499	0.0222	1	07/06/2021 16:41	<a href="#">WG1699773</a>
2-Methylnaphthalene	0.0218	J	0.00475	0.0222	1	07/06/2021 16:41	<a href="#">WG1699773</a>
2-Chloronaphthalene	U		0.00518	0.0222	1	07/06/2021 16:41	<a href="#">WG1699773</a>
(S) Nitrobenzene-d5	88.7			14.0-149		07/06/2021 16:41	<a href="#">WG1699773</a>
(S) 2-Fluorobiphenyl	75.1			34.0-125		07/06/2021 16:41	<a href="#">WG1699773</a>
(S) p-Terphenyl-d14	87.3			23.0-120		07/06/2021 16:41	<a href="#">WG1699773</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.0		1	07/02/2021 14:58	<a href="#">WG1699112</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.00285	J	0.00267	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Acenaphthene	U		0.00243	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Acenaphthylene	0.00438	J	0.00251	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Benzo(a)anthracene	0.0271		0.00201	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Benzo(a)pyrene	0.0373		0.00208	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Benzo(b)fluoranthene	0.0427		0.00178	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Benzo(g,h,i)perylene	0.0372		0.00206	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Benzo(k)fluoranthene	0.0139		0.00250	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Chrysene	0.0318		0.00270	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Dibenz(a,h)anthracene	0.00484	J	0.00200	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Fluoranthene	0.0573		0.00264	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Fluorene	U		0.00238	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Indeno(1,2,3-cd)pyrene	0.0341		0.00210	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Naphthalene	0.0181	J	0.00474	0.0232	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Phenanthrene	0.0303		0.00269	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
Pyrene	0.0599		0.00232	0.00697	1	07/05/2021 10:13	<a href="#">WG1699773</a>
1-Methylnaphthalene	0.00622	J	0.00522	0.0232	1	07/05/2021 10:13	<a href="#">WG1699773</a>
2-Methylnaphthalene	0.0106	J	0.00496	0.0232	1	07/05/2021 10:13	<a href="#">WG1699773</a>
2-Chloronaphthalene	U		0.00542	0.0232	1	07/05/2021 10:13	<a href="#">WG1699773</a>
(S) Nitrobenzene-d5	91.3			14.0-149		07/05/2021 10:13	<a href="#">WG1699773</a>
(S) 2-Fluorobiphenyl	74.7			34.0-125		07/05/2021 10:13	<a href="#">WG1699773</a>
(S) p-Terphenyl-d14	85.5			23.0-120		07/05/2021 10:13	<a href="#">WG1699773</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	07/02/2021 14:58	<a href="#">WG1699112</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Anthracene	0.0121		0.00244	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Acenaphthene	U		0.00222	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Acenaphthylene	0.0170		0.00229	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Benzo(a)anthracene	0.0692		0.00184	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Benzo(a)pyrene	0.0607		0.00190	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Benzo(b)fluoranthene	0.0960		0.00162	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Benzo(g,h,i)perylene	0.0557		0.00188	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Benzo(k)fluoranthene	0.0316		0.00228	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Chrysene	0.0711		0.00246	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Dibenz(a,h)anthracene	0.0106		0.00182	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Fluoranthene	0.120		0.00241	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Fluorene	0.00372	J	0.00217	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Indeno(1,2,3-cd)pyrene	0.0536		0.00192	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Naphthalene	0.0244		0.00433	0.0212	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Phenanthrene	0.0557		0.00245	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
Pyrene	0.122		0.00212	0.00636	1	07/06/2021 16:59	<a href="#">WG1699773</a>
1-Methylnaphthalene	0.00644	J	0.00476	0.0212	1	07/06/2021 16:59	<a href="#">WG1699773</a>
2-Methylnaphthalene	0.00941	J	0.00453	0.0212	1	07/06/2021 16:59	<a href="#">WG1699773</a>
2-Chloronaphthalene	U		0.00494	0.0212	1	07/06/2021 16:59	<a href="#">WG1699773</a>
(S) Nitrobenzene-d5	87.5			14.0-149		07/06/2021 16:59	<a href="#">WG1699773</a>
(S) 2-Fluorobiphenyl	76.4			34.0-125		07/06/2021 16:59	<a href="#">WG1699773</a>
(S) p-Terphenyl-d14	88.6			23.0-120		07/06/2021 16:59	<a href="#">WG1699773</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Acenaphthene	U		0.0190	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Acenaphthylene	U		0.0171	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Benzo(a)anthracene	U		0.0203	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Benzo(a)pyrene	U		0.0184	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Benzo(b)fluoranthene	U		0.0168	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Benzo(k)fluoranthene	U		0.0202	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Chrysene	U		0.0179	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Fluoranthene	U	<a href="#">J3</a>	0.0270	0.100	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Fluorene	U		0.0169	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Naphthalene	U		0.0917	0.250	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Phenanthrene	U		0.0180	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
Pyrene	U		0.0169	0.0500	1	07/01/2021 10:34	<a href="#">WG1698042</a>
1-Methylnaphthalene	U		0.0687	0.250	1	07/01/2021 10:34	<a href="#">WG1698042</a>
2-Methylnaphthalene	U		0.0674	0.250	1	07/01/2021 10:34	<a href="#">WG1698042</a>
2-Chloronaphthalene	U		0.0682	0.250	1	07/01/2021 10:34	<a href="#">WG1698042</a>
(S) Nitrobenzene-d5	103			31.0-160		07/01/2021 10:34	<a href="#">WG1698042</a>
(S) 2-Fluorobiphenyl	79.5			48.0-148		07/01/2021 10:34	<a href="#">WG1698042</a>
(S) p-Terphenyl-d14	93.0			37.0-146		07/01/2021 10:34	<a href="#">WG1698042</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3675411-1 07/02/21 14:58

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

L1371625-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1371625-03 07/02/21 14:58 • (DUP) R3675411-3 07/02/21 14:58

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	94.3	93.9	1	0.442		10

Laboratory Control Sample (LCS)

(LCS) R3675411-2 07/02/21 14:58

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3674698-3 07/01/21 07:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	110			31.0-160
(S) 2-Fluorobiphenyl	96.0			48.0-148
(S) p-Terphenyl-d14	116			37.0-146

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3674698-1 07/01/21 06:13 • (LCSD) R3674698-2 07/01/21 06:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.72	1.63	86.0	81.5	67.0-150			5.37	20
Acenaphthene	2.00	1.65	1.58	82.5	79.0	65.0-138			4.33	20
Acenaphthylene	2.00	1.86	1.75	93.0	87.5	66.0-140			6.09	20
Benzo(a)anthracene	2.00	1.58	1.56	79.0	78.0	61.0-140			1.27	20
Benzo(a)pyrene	2.00	1.38	1.50	69.0	75.0	60.0-143			8.33	20
Benzo(b)fluoranthene	2.00	1.47	1.51	73.5	75.5	58.0-141			2.68	20
Benzo(g,h,i)perylene	2.00	1.41	1.40	70.5	70.0	52.0-153			0.712	20
Benzo(k)fluoranthene	2.00	1.33	1.50	66.5	75.0	58.0-148			12.0	20
Chrysene	2.00	1.45	1.51	72.5	75.5	64.0-144			4.05	20
Dibenz(a,h)anthracene	2.00	1.35	1.36	67.5	68.0	52.0-155			0.738	20
Fluoranthene	2.00	1.53	1.88	76.5	94.0	69.0-153		J3	20.5	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3674698-1 07/01/21 06:13 • (LCSD) R3674698-2 07/01/21 06:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	1.75	1.66	87.5	83.0	64.0-136			5.28	20
Indeno(1,2,3-cd)pyrene	2.00	1.47	1.43	73.5	71.5	54.0-153			2.76	20
Naphthalene	2.00	1.75	1.67	87.5	83.5	61.0-137			4.68	20
Phenanthrene	2.00	1.60	1.60	80.0	80.0	62.0-137			0.000	20
Pyrene	2.00	1.70	1.67	85.0	83.5	60.0-142			1.78	20
1-Methylnaphthalene	2.00	1.85	1.74	92.5	87.0	66.0-142			6.13	20
2-Methylnaphthalene	2.00	1.77	1.69	88.5	84.5	62.0-136			4.62	20
2-Chloronaphthalene	2.00	1.60	1.54	80.0	77.0	64.0-140			3.82	20
(S) Nitrobenzene-d5				105	101	31.0-160				
(S) 2-Fluorobiphenyl				82.0	79.0	48.0-148				
(S) p-Terphenyl-d14				83.5	87.0	37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3675984-2 07/05/21 08:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	83.7			14.0-149
(S) 2-Fluorobiphenyl	70.6			34.0-125
(S) p-Terphenyl-d14	89.8			23.0-120

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3675984-1 07/05/21 08:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0735	91.9	50.0-126	
Acenaphthene	0.0800	0.0777	97.1	50.0-120	
Acenaphthylene	0.0800	0.0784	98.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0727	90.9	45.0-120	
Benzo(a)pyrene	0.0800	0.0618	77.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0788	98.5	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0798	99.8	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0786	98.3	49.0-125	
Chrysene	0.0800	0.0794	99.3	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0760	95.0	47.0-125	
Fluoranthene	0.0800	0.0792	99.0	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3675984-1 07/05/21 08:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0816	102	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0781	97.6	46.0-125	
Naphthalene	0.0800	0.0788	98.5	50.0-120	
Phenanthrene	0.0800	0.0781	97.6	47.0-120	
Pyrene	0.0800	0.0801	100	43.0-123	
1-Methylnaphthalene	0.0800	0.0766	95.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0716	89.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0681	85.1	50.0-120	
(S) Nitrobenzene-d5			108	14.0-149	
(S) 2-Fluorobiphenyl			82.5	34.0-125	
(S) p-Terphenyl-d14			107	23.0-120	

L1372027-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1372027-03 07/05/21 09:13 • (MS) R3675984-3 07/05/21 09:33 • (MSD) R3675984-4 07/05/21 09:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0764	U	0.0585	0.0537	76.6	70.3	1	10.0-145			8.56	30
Acenaphthene	0.0764	U	0.0601	0.0551	78.7	72.1	1	14.0-127			8.68	27
Acenaphthylene	0.0764	U	0.0641	0.0585	83.9	76.6	1	21.0-124			9.14	25
Benzo(a)anthracene	0.0764	U	0.0606	0.0561	79.3	73.4	1	10.0-139			7.71	30
Benzo(a)pyrene	0.0764	U	0.0587	0.0525	76.8	68.7	1	10.0-141			11.2	31
Benzo(b)fluoranthene	0.0764	0.00338	0.0574	0.0523	70.7	64.0	1	10.0-140			9.30	36
Benzo(g,h,i)perylene	0.0764	0.00309	0.0588	0.0527	72.9	64.9	1	10.0-140			10.9	33
Benzo(k)fluoranthene	0.0764	U	0.0553	0.0508	72.4	66.5	1	10.0-137			8.48	31
Chrysene	0.0764	U	0.0632	0.0571	82.7	74.7	1	10.0-145			10.1	30
Dibenz(a,h)anthracene	0.0764	U	0.0572	0.0513	74.9	67.1	1	10.0-132			10.9	31
Fluoranthene	0.0764	0.00235	0.0643	0.0579	81.1	72.7	1	10.0-153			10.5	33
Fluorene	0.0764	U	0.0640	0.0567	83.8	74.2	1	11.0-130			12.1	29
Indeno(1,2,3-cd)pyrene	0.0764	0.00230	0.0604	0.0557	76.0	69.9	1	10.0-137			8.10	32
Naphthalene	0.0764	U	0.0609	0.0549	79.7	71.9	1	10.0-135			10.4	27
Phenanthrene	0.0764	U	0.0596	0.0545	78.0	71.3	1	10.0-144			8.94	31
Pyrene	0.0764	0.00340	0.0598	0.0561	73.8	69.0	1	10.0-148			6.38	35
1-Methylnaphthalene	0.0764	U	0.0597	0.0543	78.1	71.1	1	10.0-142			9.47	28
2-Methylnaphthalene	0.0764	U	0.0555	0.0515	72.6	67.4	1	10.0-137			7.48	28
2-Chloronaphthalene	0.0764	U	0.0568	0.0517	74.3	67.7	1	29.0-120			9.40	24
(S) Nitrobenzene-d5					95.4	86.2		14.0-149				
(S) 2-Fluorobiphenyl					77.6	68.6		34.0-125				
(S) p-Terphenyl-d14					89.1	80.0		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

# ACCREDITATIONS & LOCATIONS

DRAFT

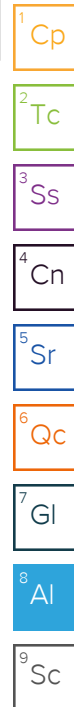
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1371625

DATE/TIME:

07/14/21 10:33

PAGE:

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Martin S. Burck Associates 200 N. Wasco Ct., Hood River, OR 97031						Billing Information: <b>Accounts Payable</b> 200 N. Wasco Ct. Hood River, OR 97031						Pres Chk			
Report to: <b>Jon White</b>						Email To: <b>jwhite@msbaenvironmental.com</b>									
Project Description: <b>North Star Casteel</b>						City/State Collected: <b>Vancouver, WA</b>									
Phone: <b>541.387.4422</b> Fax: <b>541.387.4813</b>			Client Project # <b>North Star</b>			Lab Project # <b>North Star</b>									
Collected by (print): <b>Jon White</b>			Site/Facility ID # <b>North Star</b>			P.O. # <b>North Star</b>									
Collected by (signature): 			Rush? (Lab MUST Be Notified) ____ Same Day ____ Five Day ____ Next Day ____ 5 Day (Rad Only) ____ Two Day ____ 10 Day (Rad Only) ____ Three Day			Quote #									
Immediately Packed on Ice N ____ Y <input checked="" type="checkbox"/>						Date Results Needed						No. of Cntrs			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time									
S51-5	grab	SS	5'	6/24/21	13:33	1	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	8260D - VOCs - RBDM List	8260D - VOCs - Full List	8270E-SIM - PAHS	6010 Total Lead	6010 Dissolved Lead (field filtered)	Hold
S51-6	grab	SS	6'	6/24/21	13:56	1								X	
S66-1.5	grab	SS	1.5	6/24/21	14:11	1								X	
EB-8	-	OT1	-	6/24/21	13:10	2						X			
Trip Blank	-	OT2	-	-	-	1								X	
Remarks:															
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other OT1 = Distilled Water OT2 = Lab Provided Water															
Samples returned via: _____ Tracking # _____															
Relinquished by: (Signature)		Date: 6/25/21	Time: 15:30	Received by: (Signature)		Trip Blank Received: Yes / No HCL / MeOH TBR									
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: 20.1 °C Bottles Received: 5		If preservation required by Login: Date/Time							
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature)		Date: 6/26 Time: 0930		Hold:		Condition: NCF / OK					

# DRAFT

---

19) Sample Date 8/12/21 (#L1390834)



**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1390834  
Samples Received: 08/14/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
08/12/21 08:38

Received date/time  
08/14/21 09:00

## S25-3 L1390834-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1726042	1	08/20/21 09:13	08/20/21 09:27	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1726189	10	08/20/21 22:14	08/21/21 15:01	JDG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1726189	50	08/20/21 22:14	08/22/21 01:27	CAG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
08/12/21 10:51

Received date/time  
08/14/21 09:00

## S67-0 L1390834-05 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1726042	1	08/20/21 09:13	08/20/21 09:27	CMK	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1724987	5	08/18/21 08:40	08/19/21 02:45	JPD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
08/12/21 10:51

Received date/time  
08/14/21 09:00

## S67-0 DUP L1390834-06 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1726042	1	08/20/21 09:13	08/20/21 09:27	CMK	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1724987	5	08/18/21 08:40	08/19/21 02:48	JPD	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
08/12/21 11:04

Received date/time  
08/14/21 09:00

## S68-0 L1390834-07 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1726043	1	08/20/21 08:57	08/20/21 09:08	CMK	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1724987	5	08/18/21 08:40	08/19/21 02:52	JPD	Mt. Juliet, TN

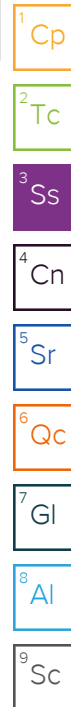
Collected by  
Jon White

Collected date/time  
08/12/21 08:25

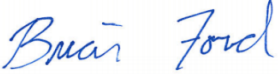
Received date/time  
08/14/21 09:00

## EB-9 L1390834-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1724306	1	08/17/21 16:53	08/18/21 17:06	JPD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1726182	1	08/20/21 17:08	08/20/21 22:32	WCR	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S25-3

Collected date/time: 08/12/21 08:38

## SAMPLE RESULTS - 01

L1390834

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.6		1	08/20/2021 09:27	<a href="#">WG1726042</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	422		13.9	41.9	10	08/21/2021 15:01	<a href="#">WG1726189</a>
Residual Range Organics (RRO)	1990		174	523	50	08/22/2021 01:27	<a href="#">WG1726189</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>		18.0-148		08/22/2021 01:27	<a href="#">WG1726189</a>
(S) o-Terphenyl	73.1			18.0-148		08/21/2021 15:01	<a href="#">WG1726189</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1390834

DATE/TIME:

08/23/21 18:04

PAGE:

5 of 18

S67-0

Collected date/time: 08/12/21 10:51

SAMPLE RESULTS - 05

L1390834

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.6		1	08/20/2021 09:27	<a href="#">WG1726042</a>

1 Cp

2 Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	42.3		0.108	1.08	5	08/19/2021 02:45	<a href="#">WG1724987</a>
Chromium	73.0		0.320	5.40	5	08/19/2021 02:45	<a href="#">WG1724987</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.1		1	08/20/2021 09:27	<a href="#">WG1726042</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	11.1		0.106	1.06	5	08/19/2021 02:48	<a href="#">WG1724987</a>
Chromium	27.5		0.315	5.31	5	08/19/2021 02:48	<a href="#">WG1724987</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S68-0

Collected date/time: 08/12/21 11:04

## SAMPLE RESULTS - 07

L1390834

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.4		1	08/20/2021 09:08	<a href="#">WG1726043</a>

1 Cp

2 Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.54		0.111	1.11	5	08/19/2021 02:52	<a href="#">WG1724987</a>
Chromium	51.6		0.327	5.53	5	08/19/2021 02:52	<a href="#">WG1724987</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

DRAFT

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		0.180	2.00	1	08/18/2021 17:06	<a href="#">WG1724306</a>
Chromium	U		1.24	2.00	1	08/18/2021 17:06	<a href="#">WG1724306</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	08/20/2021 22:32	<a href="#">WG1726182</a>
Residual Range Organics (RRO)	U		83.3	250	1	08/20/2021 22:32	<a href="#">WG1726182</a>
(S) o-Terphenyl	101			52.0-156		08/20/2021 22:32	<a href="#">WG1726182</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3694753-1 08/20/21 09:27

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

L1390834-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1390834-04 08/20/21 09:27 • (DUP) R3694753-3 08/20/21 09:27

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	94.4	94.4	1	0.0787		10

Laboratory Control Sample (LCS)

(LCS) R3694753-2 08/20/21 09:27

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3694752-1 08/20/21 09:08

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

L1390839-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1390839-02 08/20/21 09:08 • (DUP) R3694752-3 08/20/21 09:08

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	56.6	57.4	1	1.36		10

<sup>7</sup>Gl

<sup>8</sup>Al

Laboratory Control Sample (LCS)

(LCS) R3694752-2 08/20/21 09:08

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3693499-1 08/18/21 15:31

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Arsenic	U		0.180	2.00
Chromium	U		1.24	2.00

Laboratory Control Sample (LCS)

(LCS) R3693499-2 08/18/21 15:35

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Arsenic	50.0	49.1	98.1	80.0-120	
Chromium	50.0	51.9	104	80.0-120	

L1390828-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1390828-01 08/18/21 15:38 • (MS) R3693499-4 08/18/21 15:45 • (MSD) R3693499-5 08/18/21 15:48

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Arsenic	50.0	0.429	49.8	50.7	98.7	101	1	75.0-125			1.86	20
Chromium	50.0	U	52.5	54.7	105	109	1	75.0-125			4.15	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3693791-1 08/19/21 02:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Chromium	U		0.297	5.00

Laboratory Control Sample (LCS)

(LCS) R3693791-2 08/19/21 02:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.5	94.5	80.0-120	
Chromium	100	97.8	97.8	80.0-120	

L1391520-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1391520-01 08/19/21 02:27 • (MS) R3693791-5 08/19/21 02:38 • (MSD) R3693791-6 08/19/21 02:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	16.7	116	109	99.8	92.5	5	75.0-125			6.48	20
Chromium	100	22.8	124	121	101	97.8	5	75.0-125			2.60	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3694874-1 08/20/21 21:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	130			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3694874-2 08/20/21 21:40 • (LCSD) R3694874-3 08/20/21 22:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1430	1470	95.3	98.0	50.0-150			2.76	20
(S) o-Terphenyl				114	115	52.0-156				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3694832-1 08/21/21 05:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	67.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3694832-2 08/21/21 05:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	40.7	81.4	50.0-150	
(S) o-Terphenyl			70.6	18.0-148	

L1390924-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1390924-10 08/21/21 09:23 • (MS) R3694832-3 08/21/21 09:37 • (MSD) R3694832-4 08/21/21 09:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	50.0	1.62	36.6	33.9	70.0	64.6	1	50.0-150			7.66	20
(S) o-Terphenyl					59.8	51.7		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J7 Surrogate recovery cannot be used for control limit evaluation due to dilution.

# ACCREDITATIONS & LOCATIONS

DRAFT

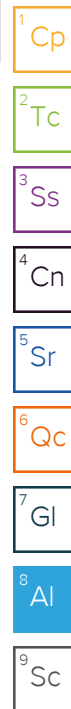
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:


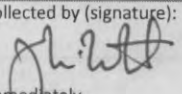
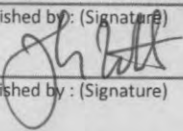
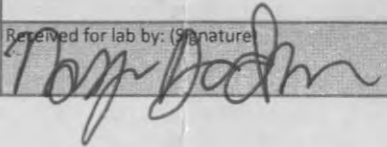
L1390834

DATE/TIME:

08/23/21 18:04

PAGE:

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<b>Martin S. Burck Associates</b> <b>200 N. Wasco Ct., Hood River, OR 97031</b>				Billing Information:				Pres Chk	Analysis / Container / Preservative								Chain of Custody Page 1 of 1				
				<b>Accounts Payable</b> <b>200 N. Wasco Ct.</b> <b>Hood River, OR 97031</b>													 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859				
Report to: <b>Jon White</b>				Email To: <b>jwhite@msbaenvironmental.com</b>																	
Project Description: <b>North Star Casteel</b>				City/State Collected: <b>Vancouver, WA</b>																	
Phone: <b>541.387.4422</b> Fax: <b>541.387.4813</b>		Client Project # <b>North Star</b>		Lab Project # <b>North Star</b>												L# <b>1390834</b> <b>K147</b> Acctnum: Template: Prelogin: TSR: PB: Shipped Via: Remarks Sample # (lab only)					
Collected by (print): <b>Jon White</b>		Site/Facility ID # <b>North Star</b>		P.O. # <b>North Star</b>																	
Collected by (signature): 		<b>Rush? (Lab MUST Be Notified)</b> <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #																	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed																	
						No. of Cntrs															
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time																
S25-3	grab	SS	3'	8/12/21	08:38	2	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	8260D - VOCs - RBDM List	8260D - VOCs - Full List	8270E-SIM - PAHs	6010 Total Lead 6020B - Cr, As	6010 Dissolved Lead (field filtered)	Hold	Extract/hold - NWTPH-Dx					
S25-4	grab	SS	4'	8/12/21	08:43	2			X							X	01				
S25-5	grab	SS	5'	8/12/21	08:49	2										X	02				
S25-6	grab	SS	6'	8/12/21	08:57	2										X	03				
S67-0	grab	SS	0'	8/12/21	10:51	1							X				04				
S67-0 dup	grab	SS	0'	8/12/21	10:51	1							X				05				
S68-0	grab	SS	0'	8/12/21	11:04	1							X				06				
EB-9	-	OT1	-	8/12/21	08:25				X				X				07				
Trip Blank	-	OT2	-	-	-	2									X		08				
<div style="display: flex; justify-content: space-between;"> <div> <p>* Matrix:            SS - Soil   AIR - Air   F - Filter            GW - Groundwater   B - Bioassay            WW - Wastewater            DW - Drinking Water            OT - Other OT1 = Distilled Water            OT2 = Lab Provided Water</p> </div> <div> <p>Remarks:</p> <p>Samples returned via:  <input type="checkbox"/> UPS   <input type="checkbox"/> FedEx   <input type="checkbox"/> Courier</p> </div> <div> <p>pH _____ Temp _____            Flow _____ Other _____</p> </div> </div>																					
Relinquished by: (Signature)  Date: <b>8/13/21</b> Time: <b>15:30</b>						Received by: (Signature) _____ Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCl / MeOH TBR						<b>Sample Receipt Checklist</b> COC Seal Present/Intact: <input type="checkbox"/> NP <input type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input type="checkbox"/> N									
Relinquished by: (Signature) _____ Date: _____ Time: _____						Received by: (Signature) _____ Temp: <b>23.2°C</b> Bottles Received: <b>2.310 2.314</b>						If preservation required by Login: Date/Time									
Relinquished by: (Signature) _____ Date: _____ Time: _____						Received for lab by: (Signature)  Date: <b>8/14/21</b> Time: <b>9:00</b>						Hold: _____ Condition: <b>NCF / OK</b>									



# DRAFT

---

20) Sample Date 8/12/21 #L1394271

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1394271  
Samples Received: 08/14/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
08/12/21 08:43

Received date/time  
08/14/21 09:00

## S25-4 L1394271-01 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1726042	1	08/20/21 09:13	08/20/21 09:27	JAV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1726189	1	08/20/21 22:14	08/21/21 07:25	AEG	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
08/12/21 10:51

Received date/time  
08/14/21 09:00

## S67-0 L1394271-02 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1726042	1	08/20/21 09:13	08/20/21 09:27	JAV	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1729533	5	08/26/21 10:01	08/26/21 19:54	LD	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

S25-4

Collected date/time: 08/12/21 08:43

## SAMPLE RESULTS - 01

L1394271

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.9		1	08/20/2021 09:27	<a href="#">WG1726042</a>

1 Cp

2 Tc

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	5.71		1.42	4.26	1	08/21/2021 07:25	<a href="#">WG1726189</a>
Residual Range Organics (RRO)	30.8		3.55	10.7	1	08/21/2021 07:25	<a href="#">WG1726189</a>
(S) o-Terphenyl	77.0			18.0-148		08/21/2021 07:25	<a href="#">WG1726189</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

S67-0

Collected date/time: 08/12/21 10:51

## SAMPLE RESULTS - 02

L1394271

DRAFT

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.6		1	08/20/2021 09:27	<a href="#">WG1726042</a>

<sup>1</sup> Cp<sup>2</sup> Tc

## Metals (ICPMS) by Method 6020B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.01		0.108	1.08	5	08/26/2021 19:54	<a href="#">WG1729533</a>

<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

Method Blank (MB)

(MB) R3694753-1 08/20/21 09:27

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

L1390834-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1390834-04 08/20/21 09:27 • (DUP) R3694753-3 08/20/21 09:27

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	94.4	94.4	1	0.0787		10

Laboratory Control Sample (LCS)

(LCS) R3694753-2 08/20/21 09:27

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3697036-1 08/26/21 18:48

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3697036-2 08/26/21 18:51

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	87.4	87.4	80.0-120	

L1394939-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1394939-02 08/26/21 18:55 • (MS) R3697036-5 08/26/21 19:06 • (MSD) R3697036-6 08/26/21 19:09

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Arsenic	123	4.28	112	109	87.8	85.3	5	75.0-125			2.70	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3694832-1 08/21/21 05:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	67.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3694832-2 08/21/21 05:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	40.7	81.4	50.0-150	
(S) o-Terphenyl			70.6	18.0-148	

L1390924-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1390924-10 08/21/21 09:23 • (MS) R3694832-3 08/21/21 09:37 • (MSD) R3694832-4 08/21/21 09:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	50.0	1.62	36.6	33.9	70.0	64.6	1	50.0-150			7.66	20
(S) o-Terphenyl					59.8	51.7		18.0-148				

1  
Cp

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Sr

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Qc

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Gl

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Al

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Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

# ACCREDITATIONS & LOCATIONS

DRAFT

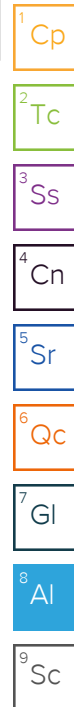
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:


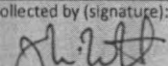
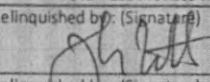
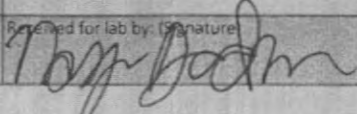
L1394271

DATE/TIME:

09/08/21 09:36

PAGE:

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<b>Martin S. Burck Associates</b> 200 N. Wasco Ct., Hood River, OR 97031		<b>Billing Information:</b> Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031		Pres Chk		Analysis / Container / Preservative								Chain of Custody Page 1 of 1					
Report to: <b>Jon White</b>		Email To: <b>jwhite@msbaenvironmental.com</b>												 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859					
Project Description: <b>North Star Casteel</b>		City/State Collected: <b>Vancouver, WA</b>												L# <b>1390857</b> <b>K147</b> <b>L1394271</b>					
Phone: <b>541.387.4422</b> Fax: <b>541.387.4813</b>		Client Project # <b>North Star</b>		Lab Project # <b>North Star</b>										Acctnum: Template: Prelogin: TSR: PB:					
Collected by (print): <b>Jon White</b>		Site/Facility ID # <b>North Star</b>		P.O. # <b>North Star</b>										Shipped Via:					
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote # Date Results Needed															
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>																			
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	8260D - VOCs - RBDM List	8260D - VOCs - Full List	8270E-SIM - PAHs	6010 Total Lead 6020B - Cr, As	6010 Dissolved Lead (field filtered)	Hold	Extract/Hold - NWTPH-Dx	Remarks	Sample # (lab only)	
S25-3	grab	SS	3'	8/12/21	08:38	2			X									01	
S25-4	grab	SS	4'	8/12/21	08:43	2										X		02-01	
S25-5	grab	SS	5'	8/12/21	08:49	2										X		03	
S25-6	grab	SS	6'	8/12/21	08:57	2										X		04	
S67-0	grab	SS	0'	8/12/21	10:51	1							X					05-02	
S67-0 dup	grab	SS	0'	8/12/21	10:51	1							X					06	
S68-0	grab	SS	0'	8/12/21	11:04	1							X					07	
EB-9	-	OT1	-	8/12/21	08:25				X				X					08	
Trip Blank	-	OT2	-	-	-	2									X			09	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other OT1 = Distilled Water OT2 = Lab Provided Water																			
Remarks: Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier Tracking # <b>51174834896</b>																			
Relinquished by: (Signature) 		Date: <b>8/13/21</b>		Time: <b>15:30</b>		Received by: (Signature) 		Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> HO / MeOH TBR		Temp: <b>23.2</b> <b>2.3 to 2.3</b>		Bottles Received: <b>14</b>		If preservation required by Login: Date/Time		Hold:		Condition: NCF / OK	
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Date:		Time:		Hold:		Condition:		NCF / OK			

L1390834 MSBAHROR re-log

R5

Please re-log as R5 due 08/31. Transfer TS.

L1390834-02 (S25-4): NWTPHDXNOSGT, TS (previous EXTRACT-HOLD, place in appropriate WG/status and add comment)

L1390834-05 (S67-0): ASG,TS.

Time estimate: oh

Time spent: oh

Members



Brian Ford

DRAFT

## Appendix F

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Disposal Documentation



**REMIT TO:**

WASCO COUNTY LANDFILL  
A WASTE CONNECTIONS COMPANY  
2550 STEELE RD  
THE DALLES, OR 97058  
541-296-4082

**BILL TO:**

STRATUS CORPORATION

DRAFT

Date	Account Number
06/15/2021	2042-144
Invoice Number	
AMOUNT DUE	
PAYMENT DUE UPON RECEIPT	

LATE PAYMENT MAY RESULT IN AN INTERRUPTION OF SERVICE.  
PAST DUE INVOICES MAY BE SUBJECT TO A LATE CHARGE  
FOR EACH MONTH OR PART THEREOF THAT THE INVOICE IS  
PAST DUE.

DATE	TICKET	TRUCK ID	PO#	TRAILER ID	TON/YARD	DESCRIPTION	DOLLARS
06/09/2021	379742	21-086			35.17	PETR CONT SOIL	
06/09/2021	379764	21-086			26.89	PETR CONT SOIL	
06/10/2021	379823	21-086			30.09	PETR CONT SOIL	
06/10/2021	379853	21-086			31.60	PETR CONT SOIL	
06/10/2021	379961	21-086			35.75	PETR CONT SOIL	
06/10/2021	380007	21-086			30.42	PETR CONT SOIL	

Total Tons: 189.92





**REMIT TO:**  
WASCO COUNTY LANDFILL  
A WASTE CONNECTIONS COMPANY  
2550 STEELE RD  
THE DALLES, OR 97058  
541-296-4082

**BILL TO:**  
STRATUS CORPORATION

DRAFT

Date	Account Number
08/15/2021	2042-144
Invoice Number	
AMOUNT DUE	
PAYMENT DUE UPON RECEIPT	

LATE PAYMENT MAY RESULT IN AN INTERRUPTION OF SERVICE.  
PAST DUE INVOICES MAY BE SUBJECT TO A LATE CHARGE  
FOR EACH MONTH OR PART THEREOF THAT THE INVOICE IS  
PAST DUE.

DATE	TICKET	TRUCK ID	PO#	TRAILER ID	TON/YARD	DESCRIPTION	DOLLARS
08/13/2021	389017	21-086			28.69	PETR CONT SOIL	
08/13/2021	389039	21-086			37.22	PETR CONT SOIL	
08/13/2021	389101	21-086			28.31	PETR CONT SOIL	

**Total Tons: 94.22**



## Plant Receiving Manifest

Friday, April 30, 2021

DRAFT

Profile #: 446147

Manifest ID 131141

Generator Name: Stratus Corporation

Address: 39515 SW Hartley Rd.  
Gaston, OR, 97119

Wash out?: Yes

Same as  
Transporter? Yes

Billing Firm: Stratus Corporation

Waste Description  
(choose one): Oil/Water

Unit: Pounds

Initial Weight (lbs): 28180

Final Weight (lbs): 24620

Solids?: No

Total Weight (lbs): 3560

Color: Black

Odor: None

pH: 7

Liquid Phase: 90

Sludge/Solids: 10

Total Gallons: 384.63

Total Solids (Tons): 0.18

Method of  
Shipment: Barrel Truck

Weight Ticket:



b\_20210430\_0003....

Does This Manifest Need a Change  
Order?: No

Relinquished By  
(Driver Signiture):

Driver Name: larry

Truck License #: 27

PPV Technician: Michael Douglas Shockley

PPV Acceptance: Approved

Date: Friday, April 30, 2021

Time: 8:17 AM



## Plant Receiving Manifest

Friday, April 30, 2021

DRAFT

Profile #: 446147

Manifest ID 131142

Generator Name: Stratus Corporation

Address: 39515 SW Hartley Rd.  
Gaston, OR, 97119

Wash out?: Yes

Same as  
Transporter? Yes

Billing Firm: Stratus Corporation

Waste Description  
(choose one): Oil/Water

Unit: Pounds

Initial Weight (lbs): 27580

Final Weight (lbs): 24180

Solids?: No

Total Weight (lbs): 3400

Color: Brown

Odor: None

pH: 7

Liquid Phase: 90

Sludge/Solids: 10

Total Gallons: 367.35

Total Solids (Tons): 0.17

Method of  
Shipment: Barrel Truck

Weight Ticket:



b\_20210430\_0004....

Does This Manifest Need a Change  
Order?: No

Relinquished By  
(Driver Signiture):

Driver Name: dean

Truck License #: 25

PPV Technician: Michael Douglas Shockley

PPV Acceptance: Approved

Date: Friday, April 30, 2021

Time: 8:21 AM



## Plant Receiving Manifest

Friday, April 30, 2021

DRAFT

Profile #: 446147

Manifest ID 131156

PO #: 21127w

Generator Name: Stratus Corporation

Address: 39515 SW Hartley Rd.  
Gaston, OR, 97119

Wash out?: Yes

Same as  
Transporter? Yes

Billing Firm: Stratus Corporation

Waste Description  
(choose one): Oil/Water

Unit: Pounds

Initial Weight (lbs): 26000

Final Weight (lbs): 24560

Color: Black

Solids?: No

Total Weight (lbs): 1440

Odor None pH: 7

Liquid Phase: 95

Sludge/Solids: 5

Total Gallons: 0

Total Solids (Tons): 0

Total Gallons: 164.23

Total Solids (Tons): 0.04

Method of  
Shipment: Vac Truck

Weight Ticket:



Stratus.pdf

Does This Manifest Need a Change  
Order?: No

Relinquished By  
(Driver Signature):

Driver Name: Conner

Truck License #: 27

Technician: Francis Reyes

Acceptance: Approved



## Plant Receiving Manifest

Friday, April 30, 2021

DRAFT

Profile #: 446147

Manifest ID 131161

PO #: 21127

Generator Name: Stratus Corporation

Address: 39515 SW Hartley Rd.  
Gaston, OR, 97119

Wash out?: Yes

Same as  
Transporter? Yes

Billing Firm: Stratus Corporation

Waste Description  
(choose one): Oil/Water

Unit: Pounds

Initial Weight (lbs): 25340

Final Weight (lbs): 24080

Color: Black

Solids?: No

Total Weight (lbs): 1260

Odor: None pH: 7

Liquid Phase: 60

Sludge/Solids: 40

Total Gallons: 90.76

Total Solids (Tons): 0.25

Method of  
Shipment: Vac Truck

Weight Ticket:



Stratus\_0001.pdf

Does This Manifest Need a Change  
Order?: No

Relinquished By  
(Driver Signature):

Driver Name: DC

Truck License #: 25

Technician: Francis Reyes

Acceptance: Approved

Date: Friday, April 30, 2021

Time: 1:23 PM



## Plant Receiving Manifest

Thursday, March 24, 2022

DRAFT

**Profile #:** 446147

**Manifest ID** 139025

**Generator Name:** Stratus Corporation -  
Categorical

**Address:** 39515 SW Hartley Rd.  
gaston, Oregon, 97116

**Wash out?:**

**Same as  
Transporter?**

**Billing Firm:** Stratus Corporation

**Waste Description  
(choose one):**

**Unit:**

**Initial Weight (lbs):** 55360

**Final Weight (lbs):** 51340

**Color:** Brown

**Solids?:**

**Total Weight (lbs):** 4020

**Odor**  **pH:** 8

**Liquid Phase:** 90

**Sludge/Solids:** 10

**Total Gallons:** 434.33

**Total Solids (Tons):** 0.20

**Method of  
Shipment:**

**Weight Ticket:**



Manifest\_2022032...

**Does This Manifest Need a Change  
Order?:**

**Technician:** Johnson Hooks

**Driver Name:** Kenneth

**Date** Thursday, March 24, 2022

**Truck License #:** 63

**Acceptance:**

**Time** 10:36 AM

DRAFT

## Appendix G

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MW-2 Soil Boring Log and Resource Protection Well Report

# SOIL BORING LOG

Site Address:  
North Star Castrol  
1200 W 13th Street  
Vancouver, WA

Boring Number

MW-2

Page Number

1 of 1

Drilling Contractor

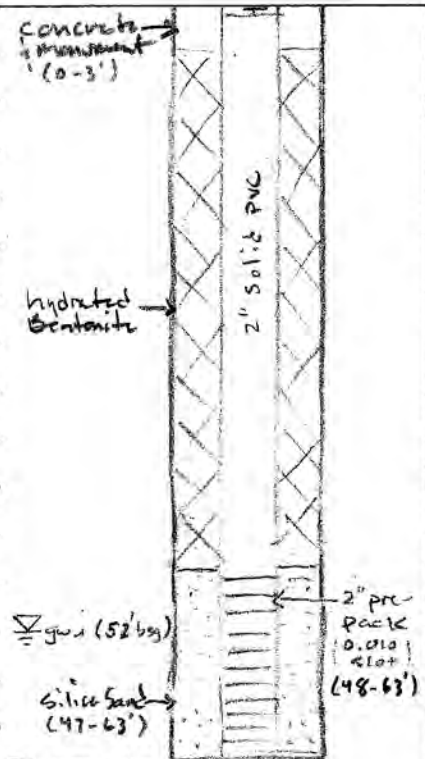
Stratus Corp

Drilling Method

HSA/push probe

**MSBA**  
Martin S. Burck Associates, Inc.  
Geologic and Environmental Consulting Services

Sample Number	PID reading (ppm)	Sample Recovery (inches)	Depth (feet) Sample Interval	Start (Date - Time)	Finish (Date - Time)
				Elevation (Top of Well Casing)	Logged By
				not measured	J. White
				Soil Description	Well Construction
MW2-5	0.2	54/60 60/60 60/60 60/60 60/60 60/60 60/60 60/60 60/60 60/60	0 GM: Silty gravel; brown (3.5'-11') 20 SP: Sand; poorly graded; medium to coarse; grey (17'-42') 48 SP: Sand; poorly graded; fine to medium; grey (42'-63') moist wet medium to coarse 60 T.D. = 63' bsg	6/14/21 - 1105	6/14/21 - 1945
MW2-52	8	36/60 34/60 60/60 36/36			



- push probe from 0-5' bsg
- HSA from 0-45' bsg
- push probe through HSA from 45'-55' for gravel sample
- push probe remained and HSA from 48'-63' to set temp well

Comments: Sample diameter: 2.25" (push probe)  
Total Depth: 63' bsg  
Hole abandonment: N/A



## Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

### Type of Work:

- ☒ Construction  
☐ Decommission  $\Rightarrow$  Original NOI No. \_\_\_\_\_

Ecology Well ID Tag No. BHU-973

Site Well Name MW-2

Consulting Firm MSBA

Was a variance approved for this well/boring? ☐ Yes ☒ No

If yes, what was the variance for? \_\_\_\_\_

**WELL CONSTRUCTION CERTIFICATION:** I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Flaherty, Scott

Driller/Engineer/Trainee Signature \_\_\_\_\_

License No. 1664

Company Name Stratus Corporation

If trainee box is checked, sponsor's license number: \_\_\_\_\_

Sponsor's signature \_\_\_\_\_

Notice of Intent No. RE21303

### Type of Well:

- ☒ Resource Protection Well ☐ Injection Point  
☐ Remediation Well ☐ Grounding Well  
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump  
☐ Environmental Boring ☐ Other \_\_\_\_\_  
 $\hookrightarrow$  ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner North Star Casteel

Well Street Address 1200 West 13<sup>th</sup> St

City Vancouver County Clark

Tax Parcel No. \_\_\_\_\_

Location (see instructions): WWM ☐ or EWM ☐

NE 1/4-1/4 SW 1/4, Section 51 Town 2N Range 1e

Latitude (Example: 47.12345) \_\_\_\_\_

Longitude (Example: -120.12345) \_\_\_\_\_

(WGS 84 Coordinate System)

Borehole diameter 8.25 inches Casing diameter 2 inches

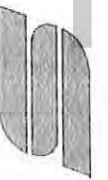
Static water level \_\_\_\_\_ ft below top of casing Date \_\_\_\_\_

☐ Above-ground completion with bollards ☒ Flush monument

$\hookrightarrow$  Stick-up of top of well casing \_\_\_\_\_ ft above ground surface

Start Date 6/14/21 Completed Date 6/14/21

Construction Design	Well Data	Driller's Log
<p>0-3' Concrete</p> <p>3'-47' Bentonite Chips</p> <p>47'-63' 12/20 Silica Sand</p> <p>0-48' 2" PVC Blank</p> <p>48'-63' 2" .010 pre-pack PVC Screen</p>		<p>GRAVEL FILL 0 - 4'</p> <p>SILTY SAND 4' - 63'</p> <p><b>RECEIVED</b></p> <p>JUN 25 2021</p> <p>WA State Department of Ecology (SWRO)</p>



# STRATUS CORPORATION

Driller Name:

Scott Flaherty Start Card #: RF21303

Project #:

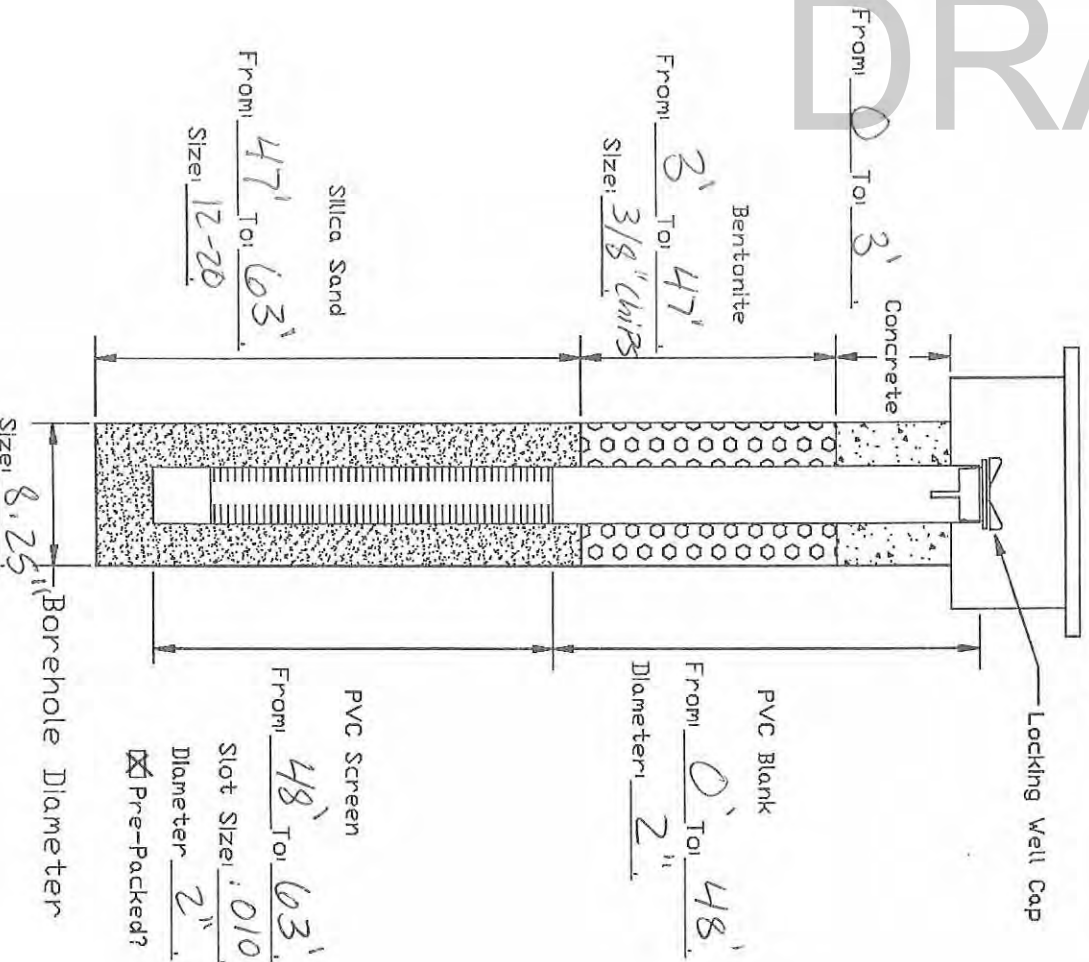
P21127W-MSBA Well Tag #: BTH-973

Site Address:

1200 West 13th Street  
Vancouver, WA 98660

Consultant Well #: MW-2 Drilling Method HSA

☒ Flush Monument  
☐ Above Ground Monument



Formation Description	BGS
Gravel Fill	0'-4'
Silty Sand	4'-63'
<div>RECEIVED JUN 25 2021 WA State Department of Ecology (SWRO)</div>	
S 51-T2N-R1E NE SW	
NorthStar Casteel	
6/14/21	
Clark	

DRAFT

## Appendix H

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Groundwater Purge and Sample Data

## SUBSLAB/SOIL VAPOR PURGE AND SAMPLE DATA

Sample Order ( 1 )

Project: North Star CasteelDate: 8/27/21 Sampled By: Jon White

## MONITORING WELL INFORMATION

Well Number: mw-2 General Location: AOPC 5 - South of Welding Station Bldg.Well Diameter (in): 2 Total Depth (ft): 63 Depth to Groundwater (ft): 53.26Wetted Casing Length (ft): 9.74 One Well Volume (gals): 1.66 No. of Well Volumes to Purge: 3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.17; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

Total Purge Volume (gals): 5 Purge Method (Pump, Bailer, etc.): submersible pump

## WELL DEVELOPMENT/PURGING INFORMATION

Time	Depth to Water	Gallons Purged	Cumulative Total	T (°C)	C (µS)	pH	TDS (ppm)	Comments
14:04	53.26	0	0					Start purge
14:21	53.30	5	5					OK to sample

Comments:  $\geq 85\%$  static water column  $\leq 54.72$  feet DtW WELL TYPE:

## GROUNDWATER SAMPLE INFORMATION

Collection Time 14:25 Appearance ☒ Clear ☐ Cloudy ☐ Turbid Thermal Preservation ☒ Ice Chest & Ice ☐ Other

Containers (20) 40 ml VOAs (4) 100 ml Amber (4) 250 ml Poly  
☒ Preserved (16) ☐ Preserved ☒ Preserved  
☒ HCL ☐ HCL ☒ HNO<sub>3</sub>

Collection Method ☐ Disposable Bailer ☐ PVC Bailer ☒ Pump <sup>submersible Peristaltic</sup> Requested Analyses: ☒ Gx ☐ RBDM VOCs ☒ Dx ☒ PAHs ☐ BTEX ☒ Other (cd, pb)

Comments Collected sample mw-2 and duplicate mw-2 dup

DRAFT

## Appendix I

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Water Sample Laboratory Analytical Report



**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1396571  
Samples Received: 08/28/2021  
Project Number: NORTH STAR  
Description: North Star Casteel  
Site: NORTH STAR  
Report To: Jon White  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
MW-2 L1396571-01	5
MW-2 DUP L1396571-02	8
EB-10 L1396571-03	11
TRIP BLANK L1396571-04	14
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Metals (ICPMS) by Method 6020B	16
Volatile Organic Compounds (GC) by Method NWTPHGX	17
Volatile Organic Compounds (GC/MS) by Method 8260D	18
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	23
Polychlorinated Biphenyls (GC) by Method 8082 A	24
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	25
Gl: Glossary of Terms	27
Al: Accreditations & Locations	28
Sc: Sample Chain of Custody	29

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

# SAMPLE SUMMARY

Collected by  
Jon White

Collected date/time  
08/27/21 14:25

Received date/time  
08/28/21 09:15

## MW-2 L1396571-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1732243	1	08/31/21 13:18	09/02/21 15:19	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1735927	1	09/08/21 01:16	09/08/21 01:16	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735235	1	09/05/21 09:13	09/05/21 09:13	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735665	1	09/06/21 22:34	09/06/21 22:34	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1735421	1	09/06/21 08:40	09/10/21 14:09	JAS	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1734074	1	09/03/21 00:08	09/03/21 17:47	AMM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1732562	1	09/01/21 23:14	09/02/21 10:33	LEA	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
08/27/21 14:25

Received date/time  
08/28/21 09:15

## MW-2 DUP L1396571-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1732243	1	08/31/21 13:18	09/02/21 15:23	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1735927	1	09/08/21 01:38	09/08/21 01:38	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735235	1	09/05/21 09:33	09/05/21 09:33	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735665	1	09/06/21 22:53	09/06/21 22:53	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1735421	1	09/06/21 08:40	09/10/21 14:29	JAS	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1734074	1	09/03/21 00:08	09/03/21 17:55	AMM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1732562	1	09/01/21 23:14	09/02/21 10:50	LEA	Mt. Juliet, TN

Collected by  
Jon White

Collected date/time  
08/27/21 11:38

Received date/time  
08/28/21 09:15

## EB-10 L1396571-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1732243	1	08/31/21 13:18	09/02/21 15:26	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1735927	1	09/08/21 02:00	09/08/21 02:00	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735235	1	09/05/21 09:52	09/05/21 09:52	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735665	1	09/06/21 23:12	09/06/21 23:12	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1735421	1	09/06/21 08:40	09/10/21 14:56	JAS	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1734074	1	09/03/21 00:08	09/03/21 18:14	AMM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1732562	1	09/01/21 23:14	09/02/21 11:08	LEA	Mt. Juliet, TN

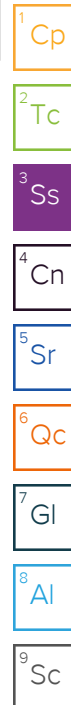
Collected by  
Jon White

Collected date/time  
08/27/21 00:00

Received date/time  
08/28/21 09:15


## TRIP BLANK L1396571-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735235	1	09/05/21 06:18	09/05/21 06:18	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1735665	1	09/06/21 22:16	09/06/21 22:16	ADM	Mt. Juliet, TN





All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Cadmium	U		0.150	1.00	1	09/02/2021 15:19	<a href="#">WG1732243</a>
Lead	U		0.849	2.00	1	09/02/2021 15:19	<a href="#">WG1732243</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	09/08/2021 01:16	<a href="#">WG1735927</a>
(S) a,a,a-Trifluorotoluene(FID)	97.9			78.0-120		09/08/2021 01:16	<a href="#">WG1735927</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	2.36	J	0.548	10.0	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Acrylonitrile	U		0.0760	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Acrolein	U	J4	0.758	50.0	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Benzene	U		0.0160	0.0400	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Bromobenzene	U		0.0420	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Bromodichloromethane	U		0.0315	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Bromoform	U		0.239	1.00	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Bromomethane	U		0.148	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
n-Butylbenzene	U		0.153	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
sec-Butylbenzene	U		0.101	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
tert-Butylbenzene	U		0.0620	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Carbon disulfide	U		0.162	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Carbon tetrachloride	U		0.0432	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Chlorobenzene	U	C3	0.0229	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Chlorodibromomethane	U		0.0180	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Chloroethane	U		0.0432	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Chloroform	0.0540	J	0.0166	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Chloromethane	U		0.0556	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
2-Chlorotoluene	U		0.0368	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
4-Chlorotoluene	U		0.0452	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2-Dibromoethane	U		0.0210	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Dibromomethane	U		0.0400	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2-Dichlorobenzene	U		0.0580	0.200	1	09/06/2021 22:34	<a href="#">WG1735665</a>
1,3-Dichlorobenzene	U		0.0680	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,4-Dichlorobenzene	U		0.0788	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Dichlorodifluoromethane	U		0.0327	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,1-Dichloroethane	U		0.0230	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2-Dichloroethane	U		0.0190	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,1-Dichloroethene	U		0.0200	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
cis-1,2-Dichloroethene	U		0.0276	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
trans-1,2-Dichloroethene	U		0.0572	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2-Dichloropropane	U		0.0508	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,1-Dichloropropene	U		0.0280	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,3-Dichloropropane	U		0.0700	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
cis-1,3-Dichloropropene	U		0.0271	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
trans-1,3-Dichloropropene	U		0.0612	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
2,2-Dichloropropane	U		0.0317	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Di-isopropyl ether	U		0.0140	0.0400	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Ethylbenzene	U		0.0212	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Hexachloro-1,3-butadiene	U		0.508	1.00	1	09/06/2021 22:34	<a href="#">WG1735665</a>
2-Hexanone	U		0.400	1.00	1	09/05/2021 09:13	<a href="#">WG1735235</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.0345	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
p-Isopropyltoluene	U		0.0932	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
2-Butanone (MEK)	U		0.500	1.00	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Methylene Chloride	U		0.265	1.00	1	09/05/2021 09:13	<a href="#">WG1735235</a>
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Methyl tert-butyl ether	U		0.0118	0.0400	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Naphthalene	U	<a href="#">C3 J3</a>	0.124	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
n-Propylbenzene	U		0.0472	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Styrene	U		0.109	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Tetrachloroethene	1.36		0.0280	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Toluene	U	<a href="#">C3</a>	0.0500	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2,3-Trichlorobenzene	U	<a href="#">C4</a>	0.0250	0.500	1	09/06/2021 22:34	<a href="#">WG1735665</a>
1,2,4-Trichlorobenzene	U	<a href="#">C4</a>	0.193	0.500	1	09/06/2021 22:34	<a href="#">WG1735665</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,1,2-Trichloroethane	U	<a href="#">C3</a>	0.0353	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Trichloroethene	0.0430		0.0160	0.0400	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Trichlorofluoromethane	U		0.0200	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2,3-Trichloropropane	U	<a href="#">J4</a>	0.204	0.500	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Vinyl chloride	U		0.0273	0.100	1	09/05/2021 09:13	<a href="#">WG1735235</a>
Xylenes, Total	U		0.191	0.260	1	09/05/2021 09:13	<a href="#">WG1735235</a>
(S) Toluene-d8	87.2			75.0-131		09/05/2021 09:13	<a href="#">WG1735235</a>
(S) Toluene-d8	101			75.0-131		09/06/2021 22:34	<a href="#">WG1735665</a>
(S) 4-Bromofluorobenzene	94.4			67.0-138		09/05/2021 09:13	<a href="#">WG1735235</a>
(S) 4-Bromofluorobenzene	90.6			67.0-138		09/06/2021 22:34	<a href="#">WG1735665</a>
(S) 1,2-Dichloroethane-d4	132	<a href="#">J1</a>		70.0-130		09/05/2021 09:13	<a href="#">WG1735235</a>
(S) 1,2-Dichloroethane-d4	105			70.0-130		09/06/2021 22:34	<a href="#">WG1735665</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	09/10/2021 14:09	<a href="#">WG1735421</a>
Residual Range Organics (RRO)	U		83.3	250	1	09/10/2021 14:09	<a href="#">WG1735421</a>
(S) o-Terphenyl	109			52.0-156		09/10/2021 14:09	<a href="#">WG1735421</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
PCB 1016	U		0.270	0.500	1	09/03/2021 17:47	<a href="#">WG1734074</a>
PCB 1221	U		0.270	0.500	1	09/03/2021 17:47	<a href="#">WG1734074</a>
PCB 1232	U		0.270	0.500	1	09/03/2021 17:47	<a href="#">WG1734074</a>
PCB 1242	U		0.270	0.500	1	09/03/2021 17:47	<a href="#">WG1734074</a>
PCB 1248	U		0.173	0.500	1	09/03/2021 17:47	<a href="#">WG1734074</a>
PCB 1254	U		0.173	0.500	1	09/03/2021 17:47	<a href="#">WG1734074</a>
PCB 1260	U		0.173	0.500	1	09/03/2021 17:47	<a href="#">WG1734074</a>
(S) Decachlorobiphenyl	72.8			10.0-128		09/03/2021 17:47	<a href="#">WG1734074</a>
(S) Tetrachloro-m-xylene	86.4			10.0-127		09/03/2021 17:47	<a href="#">WG1734074</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Acenaphthene	U		0.0190	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Acenaphthylene	U		0.0171	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Benzo(a)anthracene	U		0.0203	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Benzo(a)pyrene	U		0.0184	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Benzo(b)fluoranthene	U		0.0168	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Benzo(g,h,i)perylene	U	<a href="#">J3</a>	0.0184	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Benzo(k)fluoranthene	U		0.0202	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Chrysene	U		0.0179	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Dibenz(a,h)anthracene	U	<a href="#">J3</a>	0.0160	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Fluoranthene	U		0.0270	0.100	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Fluorene	U		0.0169	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Naphthalene	U		0.0917	0.250	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Phenanthrene	U		0.0180	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
Pyrene	U		0.0169	0.0500	1	09/02/2021 10:33	<a href="#">WG1732562</a>
1-Methylnaphthalene	U		0.0687	0.250	1	09/02/2021 10:33	<a href="#">WG1732562</a>
2-Methylnaphthalene	U		0.0674	0.250	1	09/02/2021 10:33	<a href="#">WG1732562</a>
2-Chloronaphthalene	U		0.0682	0.250	1	09/02/2021 10:33	<a href="#">WG1732562</a>
(S) Nitrobenzene-d5	120			31.0-160		09/02/2021 10:33	<a href="#">WG1732562</a>
(S) 2-Fluorobiphenyl	127			48.0-148		09/02/2021 10:33	<a href="#">WG1732562</a>
(S) p-Terphenyl-d14	152	<a href="#">J1</a>		37.0-146		09/02/2021 10:33	<a href="#">WG1732562</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Cadmium	U		0.150	1.00	1	09/02/2021 15:23	<a href="#">WG1732243</a>
Lead	1.11	<a href="#">J</a>	0.849	2.00	1	09/02/2021 15:23	<a href="#">WG1732243</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	09/08/2021 01:38	<a href="#">WG1735927</a>
(S) a,a,a-Trifluorotoluene(FID)	98.1			78.0-120		09/08/2021 01:38	<a href="#">WG1735927</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	1.96	<a href="#">J</a>	0.548	10.0	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Acrylonitrile	U		0.0760	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Acrolein	U	<a href="#">J4</a>	0.758	50.0	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Benzene	U		0.0160	0.0400	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Bromobenzene	U		0.0420	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Bromodichloromethane	U		0.0315	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Bromoform	U		0.239	1.00	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Bromomethane	U		0.148	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
n-Butylbenzene	U		0.153	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
sec-Butylbenzene	U		0.101	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
tert-Butylbenzene	U		0.0620	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Carbon disulfide	U		0.162	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Carbon tetrachloride	U		0.0432	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Chlorobenzene	U	<a href="#">C3</a>	0.0229	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Chlorodibromomethane	U		0.0180	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Chloroethane	U		0.0432	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Chloroform	0.0560	<a href="#">J</a>	0.0166	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Chloromethane	U		0.0556	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
2-Chlorotoluene	U		0.0368	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
4-Chlorotoluene	U		0.0452	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2-Dibromoethane	U		0.0210	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Dibromomethane	U		0.0400	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2-Dichlorobenzene	U		0.0580	0.200	1	09/06/2021 22:53	<a href="#">WG1735665</a>
1,3-Dichlorobenzene	U		0.0680	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,4-Dichlorobenzene	U		0.0788	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Dichlorodifluoromethane	U		0.0327	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,1-Dichloroethane	U		0.0230	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2-Dichloroethane	U		0.0190	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,1-Dichloroethene	U		0.0200	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
cis-1,2-Dichloroethene	U		0.0276	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
trans-1,2-Dichloroethene	U		0.0572	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2-Dichloropropane	U		0.0508	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,1-Dichloropropene	U		0.0280	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,3-Dichloropropane	U		0.0700	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
cis-1,3-Dichloropropene	U		0.0271	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
trans-1,3-Dichloropropene	U		0.0612	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
2,2-Dichloropropane	U		0.0317	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Di-isopropyl ether	U		0.0140	0.0400	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Ethylbenzene	U		0.0212	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Hexachloro-1,3-butadiene	U		0.508	1.00	1	09/06/2021 22:53	<a href="#">WG1735665</a>
2-Hexanone	U		0.400	1.00	1	09/05/2021 09:33	<a href="#">WG1735235</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.0345	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
p-Isopropyltoluene	U		0.0932	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
2-Butanone (MEK)	U		0.500	1.00	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Methylene Chloride	U		0.265	1.00	1	09/05/2021 09:33	<a href="#">WG1735235</a>
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Methyl tert-butyl ether	U		0.0118	0.0400	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Naphthalene	U	<a href="#">C3 J3</a>	0.124	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
n-Propylbenzene	U		0.0472	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Styrene	U		0.109	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Tetrachloroethene	1.50		0.0280	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Toluene	U	<a href="#">C3</a>	0.0500	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2,3-Trichlorobenzene	U	<a href="#">C4</a>	0.0250	0.500	1	09/06/2021 22:53	<a href="#">WG1735665</a>
1,2,4-Trichlorobenzene	U	<a href="#">C4</a>	0.193	0.500	1	09/06/2021 22:53	<a href="#">WG1735665</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,1,2-Trichloroethane	U	<a href="#">C3</a>	0.0353	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Trichloroethene	U		0.0160	0.0400	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Trichlorofluoromethane	U		0.0200	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2,3-Trichloropropane	U	<a href="#">J4</a>	0.204	0.500	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Vinyl chloride	U		0.0273	0.100	1	09/05/2021 09:33	<a href="#">WG1735235</a>
Xylenes, Total	U		0.191	0.260	1	09/05/2021 09:33	<a href="#">WG1735235</a>
(S) Toluene-d8	88.1			75.0-131		09/05/2021 09:33	<a href="#">WG1735235</a>
(S) Toluene-d8	100			75.0-131		09/06/2021 22:53	<a href="#">WG1735665</a>
(S) 4-Bromofluorobenzene	89.4			67.0-138		09/05/2021 09:33	<a href="#">WG1735235</a>
(S) 4-Bromofluorobenzene	93.1			67.0-138		09/06/2021 22:53	<a href="#">WG1735665</a>
(S) 1,2-Dichloroethane-d4	132	<a href="#">J1</a>		70.0-130		09/05/2021 09:33	<a href="#">WG1735235</a>
(S) 1,2-Dichloroethane-d4	97.5			70.0-130		09/06/2021 22:53	<a href="#">WG1735665</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	09/10/2021 14:29	<a href="#">WG1735421</a>
Residual Range Organics (RRO)	U		83.3	250	1	09/10/2021 14:29	<a href="#">WG1735421</a>
(S) o-Terphenyl	95.8			52.0-156		09/10/2021 14:29	<a href="#">WG1735421</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
PCB 1016	U		0.270	0.500	1	09/03/2021 17:55	<a href="#">WG1734074</a>
PCB 1221	U		0.270	0.500	1	09/03/2021 17:55	<a href="#">WG1734074</a>
PCB 1232	U		0.270	0.500	1	09/03/2021 17:55	<a href="#">WG1734074</a>
PCB 1242	U		0.270	0.500	1	09/03/2021 17:55	<a href="#">WG1734074</a>
PCB 1248	U		0.173	0.500	1	09/03/2021 17:55	<a href="#">WG1734074</a>
PCB 1254	U		0.173	0.500	1	09/03/2021 17:55	<a href="#">WG1734074</a>
PCB 1260	U		0.173	0.500	1	09/03/2021 17:55	<a href="#">WG1734074</a>
(S) Decachlorobiphenyl	72.5			10.0-128		09/03/2021 17:55	<a href="#">WG1734074</a>
(S) Tetrachloro-m-xylene	83.7			10.0-127		09/03/2021 17:55	<a href="#">WG1734074</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Acenaphthene	U		0.0190	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Acenaphthylene	U		0.0171	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Benzo(a)anthracene	U		0.0203	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Benzo(a)pyrene	U		0.0184	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Benzo(b)fluoranthene	U		0.0168	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Benzo(g,h,i)perylene	U	<a href="#">J3</a>	0.0184	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Benzo(k)fluoranthene	U		0.0202	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Chrysene	U		0.0179	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Dibenz(a,h)anthracene	U	<a href="#">J3</a>	0.0160	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Fluoranthene	U		0.0270	0.100	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Fluorene	U		0.0169	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Naphthalene	U		0.0917	0.250	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Phenanthrene	U		0.0180	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
Pyrene	U		0.0169	0.0500	1	09/02/2021 10:50	<a href="#">WG1732562</a>
1-Methylnaphthalene	U		0.0687	0.250	1	09/02/2021 10:50	<a href="#">WG1732562</a>
2-Methylnaphthalene	U		0.0674	0.250	1	09/02/2021 10:50	<a href="#">WG1732562</a>
2-Chloronaphthalene	U		0.0682	0.250	1	09/02/2021 10:50	<a href="#">WG1732562</a>
(S) Nitrobenzene-d5	123			31.0-160		09/02/2021 10:50	<a href="#">WG1732562</a>
(S) 2-Fluorobiphenyl	129			48.0-148		09/02/2021 10:50	<a href="#">WG1732562</a>
(S) p-Terphenyl-d14	159	<a href="#">J1</a>		37.0-146		09/02/2021 10:50	<a href="#">WG1732562</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Cadmium	U		0.150	1.00	1	09/02/2021 15:26	<a href="#">WG1732243</a>
Lead	U		0.849	2.00	1	09/02/2021 15:26	<a href="#">WG1732243</a>

## Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	09/08/2021 02:00	<a href="#">WG1735927</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.4			78.0-120		09/08/2021 02:00	<a href="#">WG1735927</a>

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	5.34	<a href="#">J</a>	0.548	10.0	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Acrylonitrile	U		0.0760	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Acrolein	U	<a href="#">J4</a>	0.758	50.0	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Benzene	U		0.0160	0.0400	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Bromobenzene	U		0.0420	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Bromodichloromethane	U		0.0315	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Bromoform	U		0.239	1.00	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Bromomethane	U		0.148	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
n-Butylbenzene	U		0.153	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
sec-Butylbenzene	U		0.101	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
tert-Butylbenzene	U		0.0620	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Carbon disulfide	U		0.162	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Carbon tetrachloride	U		0.0432	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Chlorobenzene	U	<a href="#">C3</a>	0.0229	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Chlorodibromomethane	U		0.0180	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Chloroethane	U		0.0432	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Chloroform	U		0.0166	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Chloromethane	U		0.0556	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
2-Chlorotoluene	U		0.0368	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
4-Chlorotoluene	U		0.0452	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2-Dibromoethane	U		0.0210	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Dibromomethane	U		0.0400	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2-Dichlorobenzene	U		0.0580	0.200	1	09/06/2021 23:12	<a href="#">WG1735665</a>
1,3-Dichlorobenzene	U		0.0680	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,4-Dichlorobenzene	U		0.0788	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Dichlorodifluoromethane	U		0.0327	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,1-Dichloroethane	U		0.0230	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2-Dichloroethane	U		0.0190	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,1-Dichloroethene	U		0.0200	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
cis-1,2-Dichloroethene	U		0.0276	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
trans-1,2-Dichloroethene	U		0.0572	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2-Dichloropropane	U		0.0508	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,1-Dichloropropene	U		0.0280	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,3-Dichloropropane	U		0.0700	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
cis-1,3-Dichloropropene	U		0.0271	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
trans-1,3-Dichloropropene	U		0.0612	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
2,2-Dichloropropane	U		0.0317	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Di-isopropyl ether	U		0.0140	0.0400	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Ethylbenzene	U		0.0212	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Hexachloro-1,3-butadiene	U		0.508	1.00	1	09/06/2021 23:12	<a href="#">WG1735665</a>
2-Hexanone	U		0.400	1.00	1	09/05/2021 09:52	<a href="#">WG1735235</a>



## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.0345	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
p-Isopropyltoluene	U		0.0932	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
2-Butanone (MEK)	U		0.500	1.00	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Methylene Chloride	U		0.265	1.00	1	09/05/2021 09:52	<a href="#">WG1735235</a>
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Methyl tert-butyl ether	U		0.0118	0.0400	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Naphthalene	U	<a href="#">C3 J3</a>	0.124	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
n-Propylbenzene	U		0.0472	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Styrene	U		0.109	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Tetrachloroethene	U		0.0280	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Toluene	U	<a href="#">C3</a>	0.0500	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2,3-Trichlorobenzene	U	<a href="#">C4</a>	0.0250	0.500	1	09/06/2021 23:12	<a href="#">WG1735665</a>
1,2,4-Trichlorobenzene	U	<a href="#">C4</a>	0.193	0.500	1	09/06/2021 23:12	<a href="#">WG1735665</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,1,2-Trichloroethane	U	<a href="#">C3</a>	0.0353	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Trichloroethene	U		0.0160	0.0400	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Trichlorofluoromethane	U		0.0200	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2,3-Trichloropropane	U	<a href="#">J4</a>	0.204	0.500	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Vinyl chloride	U		0.0273	0.100	1	09/05/2021 09:52	<a href="#">WG1735235</a>
Xylenes, Total	U		0.191	0.260	1	09/05/2021 09:52	<a href="#">WG1735235</a>
(S) Toluene-d8	87.6			75.0-131		09/05/2021 09:52	<a href="#">WG1735235</a>
(S) Toluene-d8	101			75.0-131		09/06/2021 23:12	<a href="#">WG1735665</a>
(S) 4-Bromofluorobenzene	91.9			67.0-138		09/05/2021 09:52	<a href="#">WG1735235</a>
(S) 4-Bromofluorobenzene	89.8			67.0-138		09/06/2021 23:12	<a href="#">WG1735665</a>
(S) 1,2-Dichloroethane-d4	137	<a href="#">J1</a>		70.0-130		09/05/2021 09:52	<a href="#">WG1735235</a>
(S) 1,2-Dichloroethane-d4	98.7			70.0-130		09/06/2021 23:12	<a href="#">WG1735665</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	09/10/2021 14:56	<a href="#">WG1735421</a>
Residual Range Organics (RRO)	U		83.3	250	1	09/10/2021 14:56	<a href="#">WG1735421</a>
(S) o-Terphenyl	114			52.0-156		09/10/2021 14:56	<a href="#">WG1735421</a>

## Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
PCB 1016	U		0.270	0.500	1	09/03/2021 18:14	<a href="#">WG1734074</a>
PCB 1221	U		0.270	0.500	1	09/03/2021 18:14	<a href="#">WG1734074</a>
PCB 1232	U		0.270	0.500	1	09/03/2021 18:14	<a href="#">WG1734074</a>
PCB 1242	U		0.270	0.500	1	09/03/2021 18:14	<a href="#">WG1734074</a>
PCB 1248	U		0.173	0.500	1	09/03/2021 18:14	<a href="#">WG1734074</a>
PCB 1254	U		0.173	0.500	1	09/03/2021 18:14	<a href="#">WG1734074</a>
PCB 1260	U		0.173	0.500	1	09/03/2021 18:14	<a href="#">WG1734074</a>
(S) Decachlorobiphenyl	27.4			10.0-128		09/03/2021 18:14	<a href="#">WG1734074</a>
(S) Tetrachloro-m-xylene	78.6			10.0-127		09/03/2021 18:14	<a href="#">WG1734074</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Acenaphthene	U		0.0190	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Acenaphthylene	U		0.0171	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Benzo(a)anthracene	U		0.0203	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Benzo(a)pyrene	U		0.0184	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Benzo(b)fluoranthene	U		0.0168	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Benzo(g,h,i)perylene	U	<a href="#">J3</a>	0.0184	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Benzo(k)fluoranthene	U		0.0202	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Chrysene	U		0.0179	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Dibenz(a,h)anthracene	U	<a href="#">J3</a>	0.0160	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Fluoranthene	U		0.0270	0.100	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Fluorene	U		0.0169	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Naphthalene	U		0.0917	0.250	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Phenanthrene	U		0.0180	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
Pyrene	U		0.0169	0.0500	1	09/02/2021 11:08	<a href="#">WG1732562</a>
1-Methylnaphthalene	U		0.0687	0.250	1	09/02/2021 11:08	<a href="#">WG1732562</a>
2-Methylnaphthalene	U		0.0674	0.250	1	09/02/2021 11:08	<a href="#">WG1732562</a>
2-Chloronaphthalene	U		0.0682	0.250	1	09/02/2021 11:08	<a href="#">WG1732562</a>
(S) Nitrobenzene-d5	127			31.0-160		09/02/2021 11:08	<a href="#">WG1732562</a>
(S) 2-Fluorobiphenyl	127			48.0-148		09/02/2021 11:08	<a href="#">WG1732562</a>
(S) p-Terphenyl-d14	153	<a href="#">J1</a>		37.0-146		09/02/2021 11:08	<a href="#">WG1732562</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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Collected date/time: 08/27/21 00:00

## SAMPLE RESULTS - 04

L1396571

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		0.548	10.0	1	09/05/2021 06:18	WG1735235
Acrylonitrile	U		0.0760	0.500	1	09/05/2021 06:18	WG1735235
Acrolein	U	J4	0.758	50.0	1	09/05/2021 06:18	WG1735235
Benzene	U		0.0160	0.0400	1	09/05/2021 06:18	WG1735235
Bromobenzene	U		0.0420	0.500	1	09/05/2021 06:18	WG1735235
Bromodichloromethane	U		0.0315	0.100	1	09/05/2021 06:18	WG1735235
Bromoform	U		0.239	1.00	1	09/05/2021 06:18	WG1735235
Bromomethane	U		0.148	0.500	1	09/05/2021 06:18	WG1735235
n-Butylbenzene	U		0.153	0.500	1	09/05/2021 06:18	WG1735235
sec-Butylbenzene	U		0.101	0.500	1	09/05/2021 06:18	WG1735235
tert-Butylbenzene	U		0.0620	0.200	1	09/05/2021 06:18	WG1735235
Carbon disulfide	0.215	J	0.162	0.500	1	09/05/2021 06:18	WG1735235
Carbon tetrachloride	U		0.0432	0.200	1	09/05/2021 06:18	WG1735235
Chlorobenzene	U	C3	0.0229	0.100	1	09/05/2021 06:18	WG1735235
Chlorodibromomethane	U		0.0180	0.100	1	09/05/2021 06:18	WG1735235
Chloroethane	U		0.0432	0.200	1	09/05/2021 06:18	WG1735235
Chloroform	U		0.0166	0.100	1	09/05/2021 06:18	WG1735235
Chloromethane	U		0.0556	0.500	1	09/05/2021 06:18	WG1735235
2-Chlorotoluene	U		0.0368	0.100	1	09/05/2021 06:18	WG1735235
4-Chlorotoluene	U		0.0452	0.200	1	09/05/2021 06:18	WG1735235
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	09/05/2021 06:18	WG1735235
1,2-Dibromoethane	U		0.0210	0.100	1	09/05/2021 06:18	WG1735235
Dibromomethane	U		0.0400	0.200	1	09/05/2021 06:18	WG1735235
1,2-Dichlorobenzene	U		0.0580	0.200	1	09/06/2021 22:16	WG1735665
1,3-Dichlorobenzene	U		0.0680	0.200	1	09/05/2021 06:18	WG1735235
1,4-Dichlorobenzene	U		0.0788	0.200	1	09/05/2021 06:18	WG1735235
Dichlorodifluoromethane	U		0.0327	0.100	1	09/05/2021 06:18	WG1735235
1,1-Dichloroethane	U		0.0230	0.100	1	09/05/2021 06:18	WG1735235
1,2-Dichloroethane	U		0.0190	0.100	1	09/05/2021 06:18	WG1735235
1,1-Dichloroethene	U		0.0200	0.100	1	09/05/2021 06:18	WG1735235
cis-1,2-Dichloroethene	U		0.0276	0.100	1	09/05/2021 06:18	WG1735235
trans-1,2-Dichloroethene	U		0.0572	0.200	1	09/05/2021 06:18	WG1735235
1,2-Dichloropropane	U		0.0508	0.200	1	09/05/2021 06:18	WG1735235
1,1-Dichloropropene	U		0.0280	0.100	1	09/05/2021 06:18	WG1735235
1,3-Dichloropropane	U		0.0700	0.200	1	09/05/2021 06:18	WG1735235
cis-1,3-Dichloropropene	U		0.0271	0.100	1	09/05/2021 06:18	WG1735235
trans-1,3-Dichloropropene	U		0.0612	0.200	1	09/05/2021 06:18	WG1735235
2,2-Dichloropropane	U		0.0317	0.100	1	09/05/2021 06:18	WG1735235
Di-isopropyl ether	U		0.0140	0.0400	1	09/05/2021 06:18	WG1735235
Ethylbenzene	U		0.0212	0.100	1	09/05/2021 06:18	WG1735235
Hexachloro-1,3-butadiene	U		0.508	1.00	1	09/06/2021 22:16	WG1735665
2-Hexanone	U		0.400	1.00	1	09/05/2021 06:18	WG1735235
Isopropylbenzene	U		0.0345	0.100	1	09/05/2021 06:18	WG1735235
p-Isopropyltoluene	U		0.0932	0.200	1	09/05/2021 06:18	WG1735235
2-Butanone (MEK)	U		0.500	1.00	1	09/05/2021 06:18	WG1735235
Methylene Chloride	U		0.265	1.00	1	09/05/2021 06:18	WG1735235
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	09/05/2021 06:18	WG1735235
Methyl tert-butyl ether	U		0.0118	0.0400	1	09/05/2021 06:18	WG1735235
Naphthalene	U	C3 J3	0.124	0.500	1	09/05/2021 06:18	WG1735235
n-Propylbenzene	U		0.0472	0.200	1	09/05/2021 06:18	WG1735235
Styrene	U		0.109	0.500	1	09/05/2021 06:18	WG1735235
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	09/05/2021 06:18	WG1735235
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	09/05/2021 06:18	WG1735235
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	09/05/2021 06:18	WG1735235
Tetrachloroethene	U		0.0280	0.100	1	09/05/2021 06:18	WG1735235
Toluene	U	C3	0.0500	0.200	1	09/05/2021 06:18	WG1735235

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

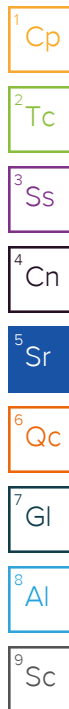
L1396571

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Collected date/time: 08/27/21 00:00

## SAMPLE RESULTS - 04

L1396571

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichlorobenzene	U	<a href="#">C4</a>	0.0250	0.500	1	09/06/2021 22:16	<a href="#">WG1735665</a>
1,2,4-Trichlorobenzene	U	<a href="#">C4</a>	0.193	0.500	1	09/06/2021 22:16	<a href="#">WG1735665</a>
1,1,1-Trichloroethane	U		0.0110	0.100	1	09/05/2021 06:18	<a href="#">WG1735235</a>
1,1,2-Trichloroethane	U	<a href="#">C3</a>	0.0353	0.100	1	09/05/2021 06:18	<a href="#">WG1735235</a>
Trichloroethene	U		0.0160	0.0400	1	09/05/2021 06:18	<a href="#">WG1735235</a>
Trichlorofluoromethane	U		0.0200	0.100	1	09/05/2021 06:18	<a href="#">WG1735235</a>
1,2,3-Trichloropropane	U	<a href="#">J4</a>	0.204	0.500	1	09/05/2021 06:18	<a href="#">WG1735235</a>
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	09/05/2021 06:18	<a href="#">WG1735235</a>
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	09/05/2021 06:18	<a href="#">WG1735235</a>
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	09/05/2021 06:18	<a href="#">WG1735235</a>
Vinyl chloride	U		0.0273	0.100	1	09/05/2021 06:18	<a href="#">WG1735235</a>
Xylenes, Total	U		0.191	0.260	1	09/05/2021 06:18	<a href="#">WG1735235</a>
(S) Toluene-d8	89.4			75.0-131		09/05/2021 06:18	<a href="#">WG1735235</a>
(S) Toluene-d8	102			75.0-131		09/06/2021 22:16	<a href="#">WG1735665</a>
(S) 4-Bromofluorobenzene	97.4			67.0-138		09/05/2021 06:18	<a href="#">WG1735235</a>
(S) 4-Bromofluorobenzene	91.5			67.0-138		09/06/2021 22:16	<a href="#">WG1735665</a>
(S) 1,2-Dichloroethane-d4	122			70.0-130		09/05/2021 06:18	<a href="#">WG1735235</a>
(S) 1,2-Dichloroethane-d4	104			70.0-130		09/06/2021 22:16	<a href="#">WG1735665</a>

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

NORTH STAR

SDG:

L1396571

DATE/TIME:

09/13/21 10:32

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Method Blank (MB)

(MB) R3699691-1 09/02/21 14:38

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Cadmium	U		0.150	1.00
Lead	U		0.849	2.00

Laboratory Control Sample (LCS)

(LCS) R3699691-2 09/02/21 14:42

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Cadmium	50.0	45.2	90.5	80.0-120	
Lead	50.0	44.1	88.2	80.0-120	

L1396816-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1396816-04 09/02/21 14:45 • (MS) R3699691-4 09/02/21 14:52 • (MSD) R3699691-5 09/02/21 14:56

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Cadmium	50.0	U	48.1	46.7	96.1	93.4	1	75.0-125			2.84	20
Lead	50.0	U	45.3	44.0	90.5	88.0	1	75.0-125			2.79	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3701641-2 09/08/21 00:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	97.5			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3701641-1 09/07/21 23:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	6200	113	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			106	78.0-120	

1  
Cp

2  
Tc

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Ss

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Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3700712-3 09/05/21 05:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		0.548	10.0
Acrolein	U		0.758	50.0
Acrylonitrile	U		0.0760	0.500
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon disulfide	U		0.162	0.500
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100
2-Hexanone	U		0.400	1.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3700712-3 09/05/21 05:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	U		0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
(S) Toluene-d8	89.7			75.0-131
(S) 4-Bromofluorobenzene	100			67.0-138
(S) 1,2-Dichloroethane-d4	122			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3700712-1 09/05/21 04:02 • (LCSD) R3700712-2 09/05/21 04:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	33.0	29.0	132	116	10.0-160			12.9	31
Acrolein	25.0	78.1	69.0	312	276	10.0-160	J4	J4	12.4	31
Acrylonitrile	25.0	33.3	30.9	133	124	45.0-153			7.48	22
Benzene	5.00	4.57	4.79	91.4	95.8	70.0-123			4.70	20
Bromobenzene	5.00	4.32	5.10	86.4	102	73.0-121			16.6	20
Bromodichloromethane	5.00	5.02	5.01	100	100	73.0-121			0.199	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3700712-1 09/05/21 04:02 • (LCSD) R3700712-2 09/05/21 04:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromoform	5.00	4.51	4.43	90.2	88.6	64.0-132			1.79	20
Bromomethane	5.00	5.19	4.97	104	99.4	56.0-147			4.33	20
n-Butylbenzene	5.00	4.10	3.47	82.0	69.4	68.0-135			16.6	20
sec-Butylbenzene	5.00	4.24	4.06	84.8	81.2	74.0-130			4.34	20
tert-Butylbenzene	5.00	4.39	4.44	87.8	88.8	75.0-127			1.13	20
Carbon disulfide	5.00	5.83	5.43	117	109	56.0-133			7.10	20
Carbon tetrachloride	5.00	5.58	5.48	112	110	66.0-128			1.81	20
Chlorobenzene	5.00	3.89	4.06	77.8	81.2	76.0-128			4.28	20
Chlorodibromomethane	5.00	4.09	4.15	81.8	83.0	74.0-127			1.46	20
Chloroethane	5.00	5.19	4.77	104	95.4	61.0-134			8.43	20
Chloroform	5.00	5.62	5.37	112	107	72.0-123			4.55	20
Chloromethane	5.00	5.13	4.85	103	97.0	51.0-138			5.61	20
2-Chlorotoluene	5.00	4.14	4.51	82.8	90.2	75.0-124			8.55	20
4-Chlorotoluene	5.00	4.54	4.81	90.8	96.2	75.0-124			5.78	20
1,2-Dibromo-3-Chloropropane	5.00	5.36	5.16	107	103	59.0-130			3.80	20
1,2-Dibromoethane	5.00	4.22	4.57	84.4	91.4	74.0-128			7.96	20
Dibromomethane	5.00	5.43	4.99	109	99.8	75.0-122			8.45	20
1,3-Dichlorobenzene	5.00	4.25	4.14	85.0	82.8	76.0-125			2.62	20
1,4-Dichlorobenzene	5.00	4.28	4.19	85.6	83.8	77.0-121			2.13	20
Dichlorodifluoromethane	5.00	5.69	5.67	114	113	43.0-156			0.352	20
1,1-Dichloroethane	5.00	5.60	5.09	112	102	70.0-127			9.54	20
1,2-Dichloroethane	5.00	5.50	5.26	110	105	65.0-131			4.46	20
1,1-Dichloroethene	5.00	6.15	5.78	123	116	65.0-131			6.20	20
cis-1,2-Dichloroethene	5.00	5.38	4.93	108	98.6	73.0-125			8.73	20
trans-1,2-Dichloroethene	5.00	5.42	5.13	108	103	71.0-125			5.50	20
1,2-Dichloropropane	5.00	4.71	4.87	94.2	97.4	74.0-125			3.34	20
1,1-Dichloropropene	5.00	5.07	4.94	101	98.8	73.0-125			2.60	20
1,3-Dichloropropane	5.00	4.20	4.68	84.0	93.6	80.0-125			10.8	20
cis-1,3-Dichloropropene	5.00	4.50	4.66	90.0	93.2	76.0-127			3.49	20
trans-1,3-Dichloropropene	5.00	4.00	4.54	80.0	90.8	73.0-127			12.6	20
2,2-Dichloropropane	5.00	4.71	4.38	94.2	87.6	59.0-135			7.26	20
Di-isopropyl ether	5.00	4.84	4.67	96.8	93.4	60.0-136			3.58	20
Ethylbenzene	5.00	4.02	3.98	80.4	79.6	74.0-126			1.00	20
2-Hexanone	25.0	26.8	28.3	107	113	54.0-147			5.44	20
Isopropylbenzene	5.00	4.01	3.72	80.2	74.4	72.0-127			7.50	20
p-Isopropyltoluene	5.00	3.99	3.70	79.8	74.0	72.0-133			7.54	20
2-Butanone (MEK)	25.0	29.9	34.9	120	140	30.0-160			15.4	24
Methylene Chloride	5.00	5.30	4.76	106	95.2	68.0-123			10.7	20
4-Methyl-2-pentanone (MIBK)	25.0	26.2	27.4	105	110	56.0-143			4.48	20
Methyl tert-butyl ether	5.00	5.33	4.80	107	96.0	66.0-132			10.5	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3700712-1 09/05/21 04:02 • (LCSD) R3700712-2 09/05/21 04:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Naphthalene	5.00	3.91	3.02	78.2	60.4	59.0-130		J3	25.7	20
n-Propylbenzene	5.00	4.45	4.71	89.0	94.2	74.0-126			5.68	20
Styrene	5.00	4.19	3.95	83.8	79.0	72.0-127			5.90	20
1,1,1,2-Tetrachloroethane	5.00	4.27	3.99	85.4	79.8	74.0-129			6.78	20
1,1,2,2-Tetrachloroethane	5.00	4.50	5.39	90.0	108	68.0-128			18.0	20
Tetrachloroethene	5.00	4.06	4.24	81.2	84.8	70.0-136			4.34	20
Toluene	5.00	3.93	4.23	78.6	84.6	75.0-121			7.35	20
1,1,2-Trichlorotrifluoroethane	5.00	5.26	4.91	105	98.2	61.0-139			6.88	20
1,1,1-Trichloroethane	5.00	6.01	5.84	120	117	69.0-126			2.87	20
1,1,2-Trichloroethane	5.00	3.96	4.38	79.2	87.6	78.0-123			10.1	20
Trichloroethene	5.00	4.65	4.65	93.0	93.0	76.0-126			0.000	20
Trichlorofluoromethane	5.00	5.47	5.07	109	101	61.0-142			7.59	20
1,2,3-Trichloropropane	5.00	6.13	6.98	123	140	67.0-129		J4	13.0	20
1,2,3-Trimethylbenzene	5.00	4.15	3.74	83.0	74.8	74.0-124			10.4	20
1,2,4-Trimethylbenzene	5.00	4.25	4.11	85.0	82.2	70.0-126			3.35	20
1,3,5-Trimethylbenzene	5.00	4.39	4.38	87.8	87.6	73.0-127			0.228	20
Vinyl chloride	5.00	5.22	5.01	104	100	63.0-134			4.11	20
Xylenes, Total	15.0	12.3	11.8	82.0	78.7	72.0-127			4.15	20
(S) Toluene-d8				86.4	89.1	75.0-131				
(S) 4-Bromofluorobenzene				94.3	92.1	67.0-138				
(S) 1,2-Dichloroethane-d4				124	123	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3700978-3 09/06/21 16:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2-Dichlorobenzene	U		0.0580	0.200
Hexachloro-1,3-butadiene	U		0.508	1.00
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
(S) Toluene-d8	101			75.0-131
(S) 4-Bromofluorobenzene	91.2			67.0-138
(S) 1,2-Dichloroethane-d4	98.4			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3700978-1 09/06/21 15:00 • (LCSD) R3700978-2 09/06/21 15:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,2-Dichlorobenzene	5.00	4.71	4.57	94.2	91.4	76.0-124			3.02	20
Hexachloro-1,3-butadiene	5.00	4.24	4.52	84.8	90.4	57.0-150			6.39	20
1,2,3-Trichlorobenzene	5.00	3.36	3.17	67.2	63.4	59.0-139			5.82	20
1,2,4-Trichlorobenzene	5.00	3.49	3.49	69.8	69.8	62.0-137			0.000	20
(S) Toluene-d8				98.1	101	75.0-131				
(S) 4-Bromofluorobenzene				96.0	92.8	67.0-138				
(S) 1,2-Dichloroethane-d4				96.8	93.1	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3700943-1 09/06/21 17:03

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	70.5			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3700943-2 09/06/21 17:29 • (LCSD) R3700943-3 09/06/21 17:55

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1510	1560	101	104	50.0-150			3.26	20
(S) o-Terphenyl				96.0	94.0	52.0-156				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3700211-1 09/03/21 13:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
PCB 1260	U		0.173	0.500
PCB 1016	U		0.270	0.500
PCB 1221	U		0.270	0.500
PCB 1232	U		0.270	0.500
PCB 1242	U		0.270	0.500
PCB 1248	U		0.173	0.500
PCB 1254	U		0.173	0.500
(S) Decachlorobiphenyl	86.1			10.0-128
(S) Tetrachloro-m-xylene	88.0			10.0-127

Laboratory Control Sample (LCS)

(LCS) R3700211-2 09/03/21 13:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1260	2.50	2.50	100	42.0-131	
PCB 1016	2.50	2.42	96.8	36.0-135	
(S) Decachlorobiphenyl			76.1	10.0-128	
(S) Tetrachloro-m-xylene			85.6	10.0-127	

L1396417-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1396417-01 09/03/21 15:25 • (MS) R3700211-4 09/03/21 16:35 • (MSD) R3700211-5 09/03/21 18:05

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1260	2.50	U	1.28	3.99	51.2	160	1	20.0-142	P	J3 J5	103	27
PCB 1016	2.50	U	2.72	8.37	109	335	1	11.0-160	P	J3 J5 P	102	38
(S) Decachlorobiphenyl					32.6	36.6		10.0-128				
(S) Tetrachloro-m-xylene					58.9	74.7		10.0-127				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3699766-3 09/02/21 08:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	103			31.0-160
(S) 2-Fluorobiphenyl	131			48.0-148
(S) p-Terphenyl-d14	155	J1		37.0-146

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3699766-1 09/02/21 08:13 • (LCSD) R3699766-2 09/02/21 08:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	2.42	2.48	121	124	67.0-150			2.45	20
Acenaphthene	2.00	2.41	2.52	120	126	65.0-138			4.46	20
Acenaphthylene	2.00	2.53	2.64	126	132	66.0-140			4.26	20
Benzo(a)anthracene	2.00	1.83	2.09	91.5	104	61.0-140			13.3	20
Benzo(a)pyrene	2.00	1.53	1.82	76.5	91.0	60.0-143			17.3	20
Benzo(b)fluoranthene	2.00	1.63	1.91	81.5	95.5	58.0-141			15.8	20
Benzo(g,h,i)perylene	2.00	1.41	1.73	70.5	86.5	52.0-153		J3	20.4	20
Benzo(k)fluoranthene	2.00	1.49	1.82	74.5	91.0	58.0-148			19.9	20
Chrysene	2.00	1.72	1.99	86.0	99.5	64.0-144			14.6	20
Dibenz(a,h)anthracene	2.00	1.41	1.74	70.5	87.0	52.0-155		J3	21.0	20
Fluoranthene	2.00	2.24	2.36	112	118	69.0-153			5.22	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3699766-1 09/02/21 08:13 • (LCSD) R3699766-2 09/02/21 08:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	2.00	2.47	2.55	123	128	64.0-136			3.19	20
Indeno(1,2,3-cd)pyrene	2.00	1.46	1.74	73.0	87.0	54.0-153			17.5	20
Naphthalene	2.00	2.31	2.41	115	120	61.0-137			4.24	20
Phenanthrene	2.00	2.46	2.56	123	128	62.0-137			3.98	20
Pyrene	2.00	2.28	2.40	114	120	60.0-142			5.13	20
1-Methylnaphthalene	2.00	2.38	2.48	119	124	66.0-142			4.12	20
2-Methylnaphthalene	2.00	2.22	2.34	111	117	62.0-136			5.26	20
2-Chloronaphthalene	2.00	2.35	2.48	117	124	64.0-140			5.38	20
(S) Nitrobenzene-d5				120	136	31.0-160				
(S) 2-Fluorobiphenyl				124	129	48.0-148				
(S) p-Terphenyl-d14				99.0	118	37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
P	RPD between the primary and confirmatory analysis exceeded 40%.



# ACCREDITATIONS & LOCATIONS

DRAFT

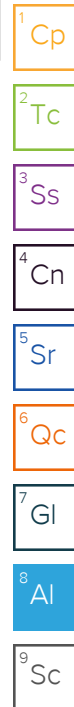
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address: <b>Martin S. Burck Assoc.-Hood River, OR</b>  200 N. Wasco Ct. Hood River, OR 97031				Billing Information:  Accounts Payable 200 N. Wasco Ct. Hood River, OR 97031				Analysis / Container / Preservative <div style="text-align: right; font-size: 2em;">12</div>				Chain of Custody    Page ____ of ____  						
Report to: <b>Jon White</b>				Email To: jwhite@msbaenvironmental.com;msba@msbae				<div style="border: 1px solid black; padding: 5px;">         12065 Lebanon Rd Mount Juliet, TN 37122          Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at:  <a href="https://info.pacelabs.com/hubfs/pas-standard-terms.pdf">https://info.pacelabs.com/hubfs/pas-standard-terms.pdf</a>           SDG # <span style="font-size: 1.5em;">1396571</span>  <div style="background-color: white; border-radius: 10px; padding: 5px; display: inline-block; font-weight: bold; font-size: 1.2em;">1099</div> </div>										
Project Description: <b>North Star Casteel</b>		City/State Collected:		Please Circle: PT MT CT ET														
Phone: <b>541-387-4422</b>		Client Project # <b>North Star</b>		Lab Project # <b>MSBAHROR-WHITE</b> <b>North Star Casteel</b>														
Collected by (print): <b>Jon White</b>		Site/Facility ID # <b>North Star</b>		P.O. # <b>North Star</b>														
Collected by (signature): 		<b>Rush?</b> (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #  Date Results Needed														
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				No. of Cntrs														
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time													
MW-2		GW		8/27/21	14:25	14	X	X	X	X		X	X					
MW-2 dup		GW		8/27/21	14:25	14	X	X	X	X		X	X					
EB-10		GW		8/27/21	11:38	13	X	X	X	X		X	X					
Trip Blank		GW										X						
		GW																
		GW																
		GW																
		GW																
		GW																
		GW																
		GW																

\* Matrix:

SS - Soil    AIR - Air    F - Filter

GW - Groundwater    B - Bioassay

WW - WasteWater

DW - Drinking Water

OT - Other \_\_\_\_\_

Remarks:

Samples returned via: \_\_\_\_\_ Tracking # **5117 4436 5288**

Relinquished by: (Signature) Date: **8/27/21** Time: **16:00**

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Trip Blank Received: ☒ Yes ☐ No

HCL / MeOH TBR

Temp: **17.7** °C    Bottles Received: **4**

Date: **8/28/21** Time: **0915**

**Sample Receipt Checklist**

COC Seal Present/Intact: ☒ NP ☐ Y ☐ N

COC Signed/Accurate: ☒ Y ☐ N

Bottles arrive intact: ☒ Y ☐ N

Correct bottles used: ☒ Y ☐ N

Sufficient volume sent: ☒ Y ☐ N

If Applicable

VOA Zero Headspace: ☒ Y ☐ N

Preservation Correct/Checked: ☒ Y ☐ N

RAD Screen <0.5 mR/hr: ☒ Y ☐ N

If preservation required by Login: Date/Time

Hold: \_\_\_\_\_ Condition: **NCF / OK**

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## Appendix J

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Soil Vapor Purge and Sample Data

### SUBSLAB/SOIL VAPOR PURGE AND SAMPLE DATA

Sample Order ( 1 )

Project: North Star CasteelDate: 8/27/21 Sampled By: J. White

#### SAMPLE INFORMATION

Sample Name SV-1 General Location: Maintenance BuildingTubing Diameter (ID) 0.17" Total Depth (ft) 0.42' Total Tubing/  
Manifold Length 4'Installation Type subslab Installation Date/Time 8/27/21 - 0950 One Purge Volume 25mLNo. of Volumes to Purge 3 Total Purge Volume 75mL

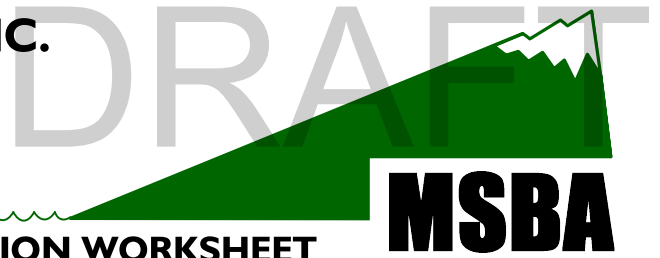
#### SOIL VAPOR PURGING INFORMATION

Time	Comments and Leak Test Description and Results
12:12	2-propanol placed in shroud
12:19	shroud pid = 19.6 ppm
12:21	purged 75mL w/ syringe; shroud pid = 21.7 ppm
12:23	purge PID = 6.5 ppm; shroud pid = 23.8 ppm
12:24	start sampling, shroud pid = 19.8 ppm
12:28	collected shroud sample SV1-shroud; shroud pid = 17.7 ppm
12:29	stop sampling; shroud pid = 18.2 ppm
12:34	downhole pid = 2.6 ppm

#### SOIL VAPOR SAMPLE INFORMATION

Start Time 12:24 End Time (Time of Collection on COC) 12:29 Start/End Vacuum 30/5" HgContainer(s) TD-15 #4879 Requested Analyses: \_\_\_\_\_

Comments \_\_\_\_\_



## SOIL VAPOR PURGE VOLUME CALCULATION WORKSHEET

Sample Order ( 1 )

Project: North Star CasteeDate: 8/27/21Sampled By: J. White

## SAMPLE INFORMATION

Sample Name SV-1General Location: Maintenance BuildingTubing Diameter (ID) 0.170"Total Depth (ft) 0.42'Installation Type Subslab

## SAMPLE POINT VOLUME

Total Depth (ft) of Sanded  
Sampling Space0.17'

Total Volume (L) of

Sanded Sampling Space 0.007L1" Bore = 0.0432  
Liters/foot3.25" Bore = 0.486  
Liters/foot

## TUBING TRAIN VOLUME

Total Tubing/Manifold  
Length4'Total Tubing/Manifold  
Volume0.018L

0.170" ID Teflon Tubing = 0.0044 Liters/foot

## TOTAL PURGE VOLUME

One Purge Volume 0.025L = 25mLNo. of Volumes to Purge 3 Total Purge Volume 75mL



## SUBSLAB/SOIL VAPOR PURGE AND SAMPLE DATA

Sample Order ( 2 )

Project: North Star CasteeleDate: 8/27/21 Sampled By: Jim White

## SAMPLE INFORMATION

Sample Name SV-2 General Location: welding station BuildingTubing Diameter (ID) 0.17" Total Depth (ft) 0.67' Total Tubing/  
Manifold Length 4'Installation Type subslab Installation Date/Time 8/27/21 - 10:10 One Purge  
Volume 25 mLNo. of Volumes to Purge 3 Total Purge Volume 75 mL

## SOIL VAPOR PURGING INFORMATION

Time	Comments and Leak Test Description and Results
13:12	2-propanol placed in shroud
13:18	shroud pid = 22 ppm
13:22	purged 75 mL using syringe; shroud pid = 22.9; purge pid = 2.5 ppm
13:23	start sv sample collection; vac = 30" Hg; shroud pid = 17.7 ppm
13:26	collected shroud sample SV2-shroud (750 mL); shroud pid = 20.3 ppm
13:28	stop sv sampling; shroud pid = 20.5; vac = 5" Hg
13:31	Downhole pid = 1.1 ppm

## SOIL VAPOR SAMPLE INFORMATION

Start Time 13:23 End Time (Time of Collection on COC) 13:28 Start/End  
Vacuum 30/5" HgContainer(s) T0-15 # 4690Requested  
Analyses:

Comments

## SOIL VAPOR PURGE VOLUME CALCULATION WORKSHEET

Sample Order ( 2 )

Project: North Star CasteelDate: 8/27/21Sampled By: J. White

## SAMPLE INFORMATION

Sample Name SV-2General Location: welding station BuildingTubing Diameter (ID) 0.170"Total Depth (ft) 0.67'Installation Type subslab

## SAMPLE POINT VOLUME

Total Depth (ft) of Sanded  
Sampling Space0.17'Total Volume (L) of  
Sanded Sampling Space0.007L1" Bore = 0.0432  
Liters/foot3.25" Bore = 0.486  
Liters/foot

## TUBING TRAIN VOLUME

Total Tubing/Manifold  
Length4Total Tubing/Manifold  
Volume0.018L

0.170" ID Teflon Tubing = 0.0044 Liters/foot

## TOTAL PURGE VOLUME

One Purge Volume 0.025L = 25mLNo. of Volumes to Purge 3 Total Purge Volume 75mL

## Appendix K

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Subslab Vapor Sample Laboratory Analytical Reports and Modeling  
Subslab Vapor Sample Laboratory Analytical Report  
Leak Test Shroud Vapor Sample Laboratory Analytical Report  
BioVapor Modeling Inputs and Outputs



DRAFT

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Subslab Vapor Sample Laboratory Analytical Report

3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Martin S Burck & Associates Inc**  
Josh Owen  
200 N Wasco St.  
Hood River, OR 97031

**RE: North Star Casteel**  
**Work Order Number: 2109007**

September 27, 2021

**Attention Josh Owen:**

Fremont Analytical, Inc. received 2 sample(s) on 9/1/2021 for the analyses presented in the following report.

***Major Gases by EPA Method 3C***  
***Petroleum Fractionation by EPA Method TO-15***  
***Volatile Organic Compounds by EPA Method TO-15***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,



Brianna Barnes  
Project Manager

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing*  
*ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing*  
*Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Revision v1



DRAFT

Date: 09/27/2021

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**CLIENT:** Martin S Burck & Associates Inc  
**Project:** North Star Casteel  
**Work Order:** 2109007

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## Work Order Sample Summary

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Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2109007-001	SV-1	08/27/2021 12:29 PM	09/01/2021 10:11 AM
2109007-002	SV-2	08/27/2021 1:23 PM	09/01/2021 10:11 AM

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Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

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**CLIENT:** Martin S Burck & Associates Inc  
**Project:** North Star Casteel

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**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Air samples are reported in ppbv and ug/m<sup>3</sup>. Major gases are reported as % ratio of the Major Gases analyzed (Carbon dioxide, Carbon Monoxide, Methane, Nitrogen, Oxygen and Hydrogen).

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Standard temperature and pressure assumes 24.45 = (25C and 1 atm).

Note: The estimated BTU calculation is based off of the methane result.

9/27/21: Revision 1 includes additional analysis requested by the client.

**Qualifiers:**

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

**Acronyms:**

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



## Analytical Report

Work Order: 2109007  
Date Reported: 9/27/2021

CLIENT: Martin S Burck & Associates Inc  
Project: North Star Casteel

Lab ID: 2109007-001  
Client Sample ID: SV-1

Collection Date: 8/27/2021 12:29:00 PM  
Matrix: Soil Gas

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R70036 Analyst: SLA

Carbon Dioxide	0.127	0.0500		%	1	9/21/2021 10:41:00 AM
Carbon Monoxide	ND	0.0500		%	1	9/21/2021 10:41:00 AM
Methane	ND	0.0500		%	1	9/21/2021 10:41:00 AM
Nitrogen	77.0	0.0500		%	1	9/21/2021 10:41:00 AM
Oxygen	22.9	0.0500		%	1	9/21/2021 10:41:00 AM
Hydrogen	ND	0.0500		%	1	9/21/2021 10:41:00 AM
BTU	ND			BTU/ft <sup>3</sup>	1	9/21/2021 10:41:00 AM

Lab ID: 2109007-002  
Client Sample ID: SV-2

Collection Date: 8/27/2021 1:23:00 PM  
Matrix: Soil Gas

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R70036 Analyst: SLA

Carbon Dioxide	0.285	0.0500		%	1	9/21/2021 10:53:00 AM
Carbon Monoxide	ND	0.0500		%	1	9/21/2021 10:53:00 AM
Methane	ND	0.0500		%	1	9/21/2021 10:53:00 AM
Nitrogen	77.1	0.0500		%	1	9/21/2021 10:53:00 AM
Oxygen	22.6	0.0500		%	1	9/21/2021 10:53:00 AM
Hydrogen	ND	0.0500		%	1	9/21/2021 10:53:00 AM
BTU	ND			BTU/ft <sup>3</sup>	1	9/21/2021 10:53:00 AM



DRAFT

**Client:** Martin S Burck & Associates Inc

**WorkOrder:** 2109007

**Project:** North Star Casteel

**Client Sample ID:** SV-1

**Date Sampled:** 8/27/2021

**Lab ID:** 2109007-001A

**Date Received:** 9/1/2021

**Sample Type:**

Analyte	Concentration	Reporting Limit	Qual	Method	Date/Analyst
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Petroleum Fractionation by EPA Method TO-15

	(ppbv)	(ug/m <sup>3</sup> )	(ppbv)	(ug/m <sup>3</sup> )			
Aliphatic Hydrocarbon (EC5-8)	419	1,590	30.0	114	EPA-TO-15	09/10/2021	MS
Aliphatic Hydrocarbon (EC9-12)	586	3,450	20.0	118	EPA-TO-15	09/10/2021	MS
Aromatic Hydrocarbon (EC9-10)	48.4	244	5.00	25.2	EPA-TO-15	09/10/2021	MS
Surr: 4-Bromofluorobenzene	143 %Rec	--	70-130	--	S	EPA-TO-15	09/10/2021 MS

**NOTES:**

S - Outlying surrogate recovery(ies) observed.

Volatile Organic Compounds by EPA Method TO-15

	(ppbv)	(ug/m <sup>3</sup> )	(ppbv)	(ug/m <sup>3</sup> )			
Isopropyl Alcohol	76.2	187	4.00	9.83	EPA-TO-15	09/10/2021	MS
Benzene	0.363	1.16	0.0400	0.128	EPA-TO-15	09/10/2021	MS
Ethylbenzene	<1.60	<6.95	1.60	6.95	EPA-TO-15	09/10/2021	MS
m,p-Xylene	<1.60	<6.95	1.60	6.95	EPA-TO-15	09/10/2021	MS
Naphthalene	1.28	6.70	0.0400	0.210	EPA-TO-15	09/10/2021	MS
o-Xylene	<0.400	<1.74	0.400	1.74	EPA-TO-15	09/10/2021	MS
Toluene	1.61	6.08	0.400	1.51	EPA-TO-15	09/10/2021	MS
Surr: 4-Bromofluorobenzene	108 %Rec	--	70-130	--	EPA-TO-15	09/10/2021	MS



# DRAFT

**Client:** Martin S Burck & Associates Inc

**WorkOrder:** 2109007

**Project:** North Star Casteel

**Client Sample ID:** SV-2

**Date Sampled:** 8/27/2021

**Lab ID:** 2109007-002A

**Date Received:** 9/1/2021

**Sample Type:**

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
<u>Petroleum Fractionation by EPA Method TO-15</u>								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Aliphatic Hydrocarbon (EC5-8)	260	987	30.0	114		EPA-TO-15	09/10/2021	MS
Aliphatic Hydrocarbon (EC9-12)	397	2,340	20.0	118		EPA-TO-15	09/10/2021	MS
Aromatic Hydrocarbon (EC9-10)	8.46	42.5	5.00	25.2		EPA-TO-15	09/10/2021	MS
Surr: 4-Bromofluorobenzene	121 %Rec	--	70-130	--		EPA-TO-15	09/10/2021	MS
<u>Volatile Organic Compounds by EPA Method TO-15</u>								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Isopropyl Alcohol	34.1	83.7	10.0	24.6		EPA-TO-15	09/10/2021	MS
Benzene	0.563	1.80	0.100	0.319		EPA-TO-15	09/10/2021	MS
Ethylbenzene	<4.00	<17.4	4.00	17.4		EPA-TO-15	09/10/2021	MS
m,p-Xylene	<4.00	<17.4	4.00	17.4		EPA-TO-15	09/10/2021	MS
Naphthalene	0.195	1.02	0.100	0.524		EPA-TO-15	09/10/2021	MS
o-Xylene	<1.00	<4.34	1.00	4.34		EPA-TO-15	09/10/2021	MS
Toluene	<1.00	<3.77	1.00	3.77		EPA-TO-15	09/10/2021	MS
Surr: 4-Bromofluorobenzene	89.8 %Rec	--	70-130	--		EPA-TO-15	09/10/2021	MS



**Work Order:** 2109007  
**CLIENT:** Martin S Burck & Associates Inc  
**Project:** North Star Casteel

## QC SUMMARY REPORT

### Petroleum Fractionation by EPA Method TO-15

Sample ID: <b>LCS-R69874</b>	SampType: <b>LCS</b>	Units: <b>ppbv</b>			Prep Date: <b>9/10/2021</b>			RunNo: <b>69874</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R69874</b>	Analysis Date: <b>9/10/2021</b>						SeqNo: <b>1416610</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (EC5-8)	12.9	7.50	12.00	0	108	70	130				
Aliphatic Hydrocarbon (EC9-12)	15.0	5.00	12.00	0	125	70	130				
Aromatic Hydrocarbon (EC9-10)	12.1	1.25	10.00	0	121	70	130				
Surr: 4-Bromofluorobenzene	5.33		4.000		133	70	130				S
<b>NOTES:</b>											
S - Outlying surrogate recovery(ies) observed.											

Sample ID: <b>MB-R69874</b>	SampType: <b>MBLK</b>	Units: <b>ppbv</b>			Prep Date: <b>9/10/2021</b>			RunNo: <b>69874</b>			
Client ID: <b>MBLKW</b>	Batch ID: <b>R69874</b>				Analysis Date: <b>9/10/2021</b>			SeqNo: <b>1416611</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (EC5-8)	ND	7.50									
Aliphatic Hydrocarbon (EC9-12)	ND	5.00									
Aromatic Hydrocarbon (EC9-10)	ND	1.25									
Surr: 4-Bromofluorobenzene	4.42		4.000		110	70	130				

Sample ID: <b>2109007-001AREP</b>		SampType: <b>REP</b>		Units: <b>ppbv</b>		Prep Date: <b>9/10/2021</b>			RunNo: <b>69874</b>		
Client ID: <b>SV-1</b>		Batch ID: <b>R69874</b>					Analysis Date: <b>9/10/2021</b>			SeqNo: <b>1416613</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (EC5-8)	342	30.0						418.8	20.1	25	
Aliphatic Hydrocarbon (EC9-12)	522	20.0						586.5	11.6	25	
Aromatic Hydrocarbon (EC9-10)	42.7	5.00						48.42	12.6	25	
Surr: 4-Bromofluorobenzene	20.7		16.00		129	70	130		0		

**Work Order:** 2109007  
**CLIENT:** Martin S Burck & Associates Inc  
**Project:** North Star Casteel

## QC SUMMARY REPORT

### Major Gases by EPA Method 3C

Sample ID: <b>LCS-R70036</b>	SampType: <b>LCS</b>	Units: %			Prep Date: <b>9/21/2021</b>			RunNo: <b>70036</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R70036</b>				Analysis Date: <b>9/21/2021</b>			SeqNo: <b>1420138</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon Dioxide	99.8	0.0500	100.0	0	99.8	70	130				
Carbon Monoxide	99.8	0.0500	100.0	0	99.8	70	130				
Methane	99.8	0.0500	100.0	0	99.8	70	130				
Nitrogen	100	0.0500	100.0	0	100	70	130				
Oxygen	99.5	0.0500	100.0	0	99.5	70	130				
Hydrogen	97.9	0.0500	100.0	0	97.9	70	130				

Sample ID: <b>2109293-001AREP</b>		SampType: <b>REP</b>		Units: %		Prep Date: <b>9/21/2021</b>			RunNo: <b>70036</b>		
Client ID: <b>BATCH</b>		Batch ID: <b>R70036</b>					Analysis Date: <b>9/21/2021</b>			SeqNo: <b>1420134</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon Dioxide	4.04	0.0500						4.014	0.530	30	
Carbon Monoxide	ND	0.0500						0		30	
Methane	0.409	0.0500						0.4171	1.97	30	
Nitrogen	94.5	0.0500						94.45	0.0198	30	
Oxygen	1.09	0.0500						1.122	2.88	30	
Hydrogen	ND	0.0500						0		30	
BTU	4.14							4.218	1.97		

**Work Order:** 2109007  
**CLIENT:** Martin S Burck & Associates Inc  
**Project:** North Star Casteel

## QC SUMMARY REPORT

### Volatile Organic Compounds by EPA Method TO-15

Sample ID: <b>LCS-R69860</b>	SampType: <b>LCS</b>	Units: <b>ppbv</b>			Prep Date: <b>9/10/2021</b>			RunNo: <b>69860</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R69860</b>	Analysis Date: <b>9/10/2021</b>						SeqNo: <b>1416476</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropyl Alcohol	1.78	1.00	2.000	0	88.9	70	130				
Benzene	1.95	0.0100	2.000	0	97.5	70	130				
Toluene	1.91	0.100	2.000	0	95.7	70	130				
Ethylbenzene	1.93	0.400	2.000	0	96.7	70	130				
m,p-Xylene	3.96	0.400	4.000	0	99.1	70	130				
o-Xylene	1.95	0.100	2.000	0	97.7	70	130				
Naphthalene	1.72	0.0100	2.000	0	85.9	70	130				
Surr: 4-Bromofluorobenzene	4.21		4.000		105	70	130				

Sample ID: 2109007-001AREP	SampType: REP	Units: ppbv			Prep Date: 9/10/2021				RunNo: 69860		
Client ID: SV-1	Batch ID: R69860	Analysis Date: 9/10/2021							SeqNo: 1416461		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropyl Alcohol	63.5	4.00						76.24	18.2	25	I
Benzene	0.327	0.0400						0.3632	10.6	25	I
Toluene	1.54	0.400						1.614	4.39	25	I
Ethylbenzene	ND	1.60						0		25	I
m,p-Xylene	ND	1.60						0		25	I
o-Xylene	ND	0.400						0		25	I
Naphthalene	1.16	0.0400						1.279	9.80	25	I
Surr: 4-Bromofluorobenzene	15.5		16.00		96.9	70	130		0		I

#### NOTES:

I - Internal standards were outside of acceptance criteria. Re-analysis and/or matrix spike samples yielded the same result indicating a possible matrix effect.

Sample ID: <b>MB2-R69860</b>		SampType: <b>MBLK</b>		Units: <b>ppbv</b>		Prep Date: <b>9/10/2021</b>			RunNo: <b>69860</b>			
Client ID: <b>MBLKW</b>		Batch ID: <b>R69860</b>					Analysis Date: <b>9/10/2021</b>			SeqNo: <b>1416465</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Isopropyl Alcohol	ND	1.00										
Benzene	ND	0.0100										

Work Order: 2109007

CLIENT: Martin S Burck &amp; Associates Inc

Project: North Star Casteel

## QC SUMMARY REPORT

### Volatile Organic Compounds by EPA Method TO-15

Sample ID: <b>MB2-R69860</b>		SampType: <b>MBLK</b>		Units: <b>ppbv</b>		Prep Date: <b>9/10/2021</b>			RunNo: <b>69860</b>		
Client ID: <b>MBLKW</b>		Batch ID: <b>R69860</b>					Analysis Date: <b>9/10/2021</b>			SeqNo: <b>1416465</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	ND	0.100									
Ethylbenzene	ND	0.400									
m,p-Xylene	ND	0.400									
o-Xylene	ND	0.100									
Naphthalene	ND	0.0100									
Surr: 4-Bromofluorobenzene	3.32		4.000		83.1	70	130				

Client Name: **MSBA**  
 Logged by: **Gabrielle Coeuille**

Work Order Number: **2109007**  
 Date Received: **9/1/2021 10:11:00 AM**

### Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐  
 2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes ☐ No ☒ NA ☐  
**Air samples**  
 4. Shipping container/cooler in good condition? Yes ☒ No ☐  
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Present ☒  
 6. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☒  
 7. Were all items received at a temperature of >2°C to 6°C \* Yes ☐ No ☐ NA ☒  
 8. Sample(s) in proper container(s)? Yes ☒ No ☐  
 9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
 10. Are samples properly preserved? Yes ☒ No ☐  
 11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
 12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒  
 13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐  
 14. Does paperwork match bottle labels? Yes ☒ No ☐  
 15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
 16. Is it clear what analyses were requested? Yes ☒ No ☐  
 17. Were all holding times able to be met? Yes ☒ No ☐

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C









DRAFT

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Leak Test Shroud Vapor Sample Laboratory Analytical Report



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Martin S Burck & Associates Inc**  
Josh Owen  
200 N Wasco St.  
Hood River, OR 97031

**RE: North Star Casteel**  
**Work Order Number: 2108405**

September 07, 2021

**Attention Josh Owen:**

Fremont Analytical, Inc. received 2 sample(s) on 8/30/2021 for the analyses presented in the following report.

***Volatile Organic Compounds by EPA Method TO-15***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,



Brianna Barnes  
Project Manager

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing  
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing  
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

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Original



DRAFT

Date: 09/07/2021

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**CLIENT:** Martin S Burck & Associates Inc  
**Project:** North Star Casteel  
**Work Order:** 2108405

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## Work Order Sample Summary

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Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108405-001	SV1-Shroud	08/27/2021 12:24 PM	08/30/2021 9:32 AM
2108405-002	SV2-Shroud	08/27/2021 1:22 PM	08/30/2021 9:32 AM

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Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

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Original

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**CLIENT:** Martin S Burck & Associates Inc  
**Project:** North Star Casteel

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**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Standard temperature and pressure assumes 24.45 = (25C and 1 atm).

**Qualifiers:**

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

**Acronyms:**

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



DRAFT

**Client:** Martin S Burck & Associates Inc

**WorkOrder:** 2108405

**Project:** North Star Casteel

**Client Sample ID:** SV1-Shroud

**Date Sampled:** 8/27/2021

**Lab ID:** 2108405-001A

**Date Received:** 8/30/2021

**Sample Type:** Tedlar Bag

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
<u>Volatile Organic Compounds by EPA Method TO-15</u>								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Isopropyl Alcohol	10,200	25,000	4,000	9,830	DH	EPA-TO-15	09/03/2021	MS
Surr: 4-Bromofluorobenzene	92.9 %Rec	--	70-130	--	DH	EPA-TO-15	09/03/2021	MS



DRAFT

**Client:** Martin S Burck & Associates Inc

**WorkOrder:** 2108405

**Project:** North Star Casteel

**Client Sample ID:** SV2-Shroud

**Date Sampled:** 8/27/2021

**Lab ID:** 2108405-002A

**Date Received:** 8/30/2021

**Sample Type:** Tedlar Bag

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
<u>Volatile Organic Compounds by EPA Method TO-15</u>								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Isopropyl Alcohol	23,200	57,000	4,000	9,830	DH	EPA-TO-15	09/03/2021	MS
Surr: 4-Bromofluorobenzene	92.7 %Rec	--	70-130	--	DH	EPA-TO-15	09/03/2021	MS

Work Order: 2108405

CLIENT: Martin S Burck &amp; Associates Inc

Project: North Star Casteel

## QC SUMMARY REPORT

### Volatile Organic Compounds by EPA Method TO-15

Sample ID: <b>LCS-R69735</b>		SampType: <b>LCS</b>			Units: <b>ppbv</b>		Prep Date: <b>9/3/2021</b>			RunNo: <b>69735</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>R69735</b>			Analysis Date: <b>9/3/2021</b>			SeqNo: <b>1413702</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Isopropyl Alcohol	1.48	1.00	2.000	0	73.8	70	130				
Surr: 4-Bromofluorobenzene	3.46		4.000		86.5	70	130				

Sample ID: <b>MB-R69735</b>		SampType: <b>MBLK</b>			Units: <b>ppbv</b>		Prep Date: <b>9/3/2021</b>			RunNo: <b>69735</b>		
Client ID: <b>MBLKW</b>		Batch ID: <b>R69735</b>			Analysis Date: <b>9/3/2021</b>					SeqNo: <b>1413703</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Isopropyl Alcohol	ND	1.00									
Surr: 4-Bromofluorobenzene	3.32		4.000		83.0	70	130				

Sample ID: <b>2109003-001AREP</b>		SampType: <b>REP</b>			Units: <b>ppbv</b>		Prep Date: <b>9/3/2021</b>			RunNo: <b>69735</b>		
Client ID: <b>BATCH</b>		Batch ID: <b>R69735</b>			Analysis Date: <b>9/3/2021</b>			SeqNo: <b>1413705</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Isopropyl Alcohol	ND	10.0						0		25	
Surr: 4-Bromofluorobenzene	35.3		40.00		88.4	70	130		0		

Client Name: **MSBA**

Work Order Number: **2108405**

Logged by: **Gabrielle Coeuille**

Date Received: **8/30/2021 9:32:00 AM**

### Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

### Log In

3. Coolers are present? Yes ☐ No ☒ NA ☐
- Ais samples
4. Shipping container/cooler in good condition? Yes ☒ No ☐
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Present ☒
6. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☒
7. Were all items received at a temperature of >2°C to 6°C \* Yes ☐ No ☐ NA ☒
8. Sample(s) in proper container(s)? Yes ☒ No ☐
9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
10. Are samples properly preserved? Yes ☒ No ☐
11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
14. Does paperwork match bottle labels? Yes ☒ No ☐
15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
16. Is it clear what analyses were requested? Yes ☒ No ☐
17. Were all holding times able to be met? Yes ☐ No ☒

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Samples required dilutions

### Item Information

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Original






# DRAFT

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## BioVapor Modeling Inputs and Outputs



**Model Input Screens**

Environmental Factors

Chemicals

Chemical Concentrations

Chemical Database

---

### 1. Oxygen Surface Boundary Condition

Slab or Basement Foundation (e.g., Specify Airflow)

### 2. Indoor Target Criteria

☒ Do not perform backward Calculation  
☐ Based on Indoor Risk / Hazard Target  
☐ Specified Indoor Air Concentration Target

Note: Target indoor air concentrations can be edited on the "Chemical Database" screen

### 3. Exposure and Risk Factors

Target Hazard Quotient For Individual Chemicals	THQ	1.00	(-)
Target Excess Individual Lifetime Cancer Risk	TR	1.00E-06	(-)
Carcinogen Averaging Time	AT <sub>C</sub>	70.00	yrs
Non-carcinogenic Averaging Time	AT <sub>NC</sub>	25.00	yrs
Body Weight - Adult	BW	70.00	kg
Exposure Duration	ED	25.00	yrs
Exposure Frequency	EF	250.00	days/yr
Indoor Inhalation Rate Exposure Adjustment	CF	1.00	(-)

### 4. Building Parameters

Indoor Mixing Height	L <sub>mix</sub>	487.00	cm
Air Exchange Rate	ER	12.00	1/day
Foundation Thickness	L <sub>crack</sub>	1016.00	cm
Foundation Area	A <sub>b</sub>	1060000.00	cm <sup>2</sup>
Foundation Crack Fraction	η	3.77E-04	cm <sup>2</sup> -cracks/cm <sup>2</sup> -total
Total Porosity (Soil-filled Cracks)	θ <sub>T-crack</sub>	1.00	cm <sup>3</sup> -void/cm <sup>3</sup> -soil
Water Filled Porosity (Soil-filled Cracks)	θ <sub>w-crack</sub>	0.00	cm <sup>3</sup> -void/cm <sup>3</sup> -soil
Airflow Through Basement Foundation	Q <sub>s</sub>	83.00	cm <sup>3</sup> -air/sec
Building Envelope Resistance	L <sub>mix</sub> * ER	0.07	cm/sec

### 5. Vadose Zone Parameters

Soil Porosity	θ <sub>T-soil</sub>	0.38	cm <sup>3</sup> -void/cm <sup>3</sup> -soil
Soil Water Content	θ <sub>w-soil</sub>	0.05	cm <sup>3</sup> -water/cm <sup>3</sup> -soil
Soil Organic Carbon Fraction	f <sub>oc</sub>	5.00E-03	g-oc/g-soil
Soil Density - Bulk	ρ <sub>s</sub>	1.70	g-soil/cm <sup>3</sup> -soil
Airflow Under Foundation	Q <sub>f</sub>	83.00	cm <sup>3</sup> -air/sec
Depth of Aerobic Zone Under Foundation	L <sub>A</sub>	-	cm
O <sub>2</sub> Concentration Under Foundation	CO <sub>2</sub> -e	-	%
Annual Median Soil Temperature	T	10.00	°C
Baseline Soil Oxygen Respiration Rate	Δ <sub>base</sub>	9.780E-08	mg-O <sub>2</sub> / g-soil - sec
Depth to Source (from bottom of foundation)	LT	2.54	cm
Minimum O <sub>2</sub> Conc. For Aerobic Biodegradation		1.00	%

### 6. Commands and Options

Default Values

☐ Residential  
☒ Commercial / Industrial

Paste

Home

Print

Reset

Next

**Legend**

80.00

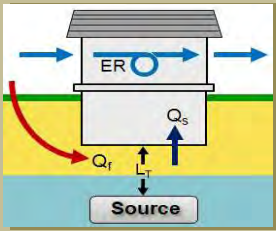
Calculated Value


80.00

User Input Value

80.00

Value Outside Normal Range





**Model Input Screens**

Environmental Factors

**Chemicals**

Chemical Concentrations

Chemical Database

### 1. Source Type

☒ Soil Gas  
☐ Groundwater

### 2. Chemical Selection

#### Potential Risk Drivers

naphthalene  
toluene  
trimethylbenzene, 1,2,4-  
trimethylbenzene, 1,3,5-  
xylenes (mixed isomers)

add

#### Other Hydrocarbons

methane  
n-butane  
isopentane  
n-pentane

add

#### Hydrocarbon Surrogates

C9 to C10 Aliphatic  
C10 to C11 Aliphatic  
C11 to C12 Aliphatic  
C12 to C13 Aliphatic

add

#### Selected Chemicals

naphthalene  
C5 to C6 Aliphatic  
C6 to C7 Aliphatic  
C7 to C8 Aliphatic  
C9 to C10 Aromatic  
C9 to C10 Aliphatic  
C10 to C11 Aliphatic  
C11 to C12 Aliphatic

Remove

Reset List

### Note:

User must account for all hydrocarbons present in source. Use "other aromatic hydrocarbons" and "other aliphatic hydrocarbons" to account for unidentified hydrocarbons.

### 3. Commands and Options

Home

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Next

Edit Chemicals

Site Name: test1  
Address: test1

## BioVapor Results

Date: 10/2/2009  
Completed By: tes1  
Job ID: 3395



Model Input Screens

Environmental Factors   Chemicals   Chemical Concentrations

Chemical Database

### 2. Commands and Options

[Home](#)   [Print](#)

[Previous](#)   [Next :: Results](#)

*After Clicking "Next :: Results", see status bar in lower left corner for progress on calculations.*

### 1. Soil Gas Source

#### Chemical Concentrations


Chemical	ug/m <sup>3</sup>
naphthalene	6.70E+00
C5 to C6 Aliphatic	5.30E+02
C6 to C7 Aliphatic	5.30E+02
C7 to C8 Aliphatic	5.30E+02
C9 to C10 Aromatic	2.44E+02
C9 to C10 Aliphatic	1.15E+03
C10 to C11 Aliphatic	1.15E+03
C11 to C12 Aliphatic	1.15E+03

5.29E+03

Total Entered  
Hydrocarbon Concentration (ug/m<sup>3</sup>)

**Note:** The total hydrocarbon concentration should equal the total concentration of all hydrocarbons in the source area

## BioVapor Results



**Model Output Screens**

VI Risk

Subsurface Profile

Detailed Results

**Commands and Options**

Home

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Unprotect

Target Hazard Quotient	Target Risk Level
1	1.00E-06

**Forward Risk Calculation**

Chemical Name	Groundwater Source Concentration <small>ug/L</small>	Soil Gas Source Concentration <small>ug/m<sup>3</sup></small>	Soil Gas to Indoor Air Attenuation Factor <small>(-)</small>	Target Indoor Air Concentration <small>ug/m<sup>3</sup>-air</small>	Predicted Indoor Air Concentration <small>ug/m<sup>3</sup>-air</small>	Hazard Quotient <small>(-)</small>	Risk Level <small>(-)</small>
naphthalene	-	6.70E+00	8.29E-04	7.00E-02	5.56E-03	1.27E-03	-

**NOTE A:** "< 1E-100" means calculated attenuation factor is less than 1E-100

**Backward Risk Calculation**

Critical Chemical for Backward Risk Calculation: Not Selected

Chemical Name	Target Hazard Quotient <small>(-)</small>	Target Cancer Risk <small>(-)</small>	Target Indoor Air Concentration <small>ug/m<sup>3</sup>-air</small>	Soil Gas Source Concentration <small>ug/m<sup>3</sup></small>	Effective Saturated Vapor Concentration <small>ug/m<sup>3</sup></small>	Groundwater Source Concentration <small>ug/L</small>	Effective Solubility <small>ug/L</small>
naphthalene	Not Selected	Not Selected	Not Selected	Not Selected	Not Selected	Not Selected	Not Selected

**NOTE B:** Target indoor air concentrations can be edited on the "Chemical Database" screen

**NOTE C:** Red value indicates source concentration greater than saturation limit

**NOTE D:** Backward Risk Calculation not applicable when aerobic depth directly specified

**NOTE E:** Backward Calculation not completed due to Excel calculation error

DRAFT



Model Output Screens

VI Risk

Subsurface Profile

Detailed Results

Commands and Options

Home

Print

Previous

Next

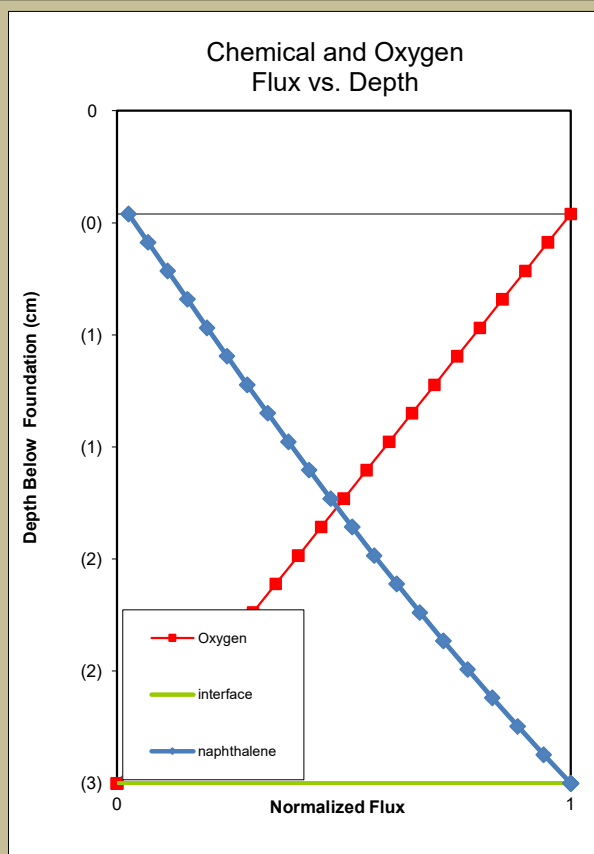
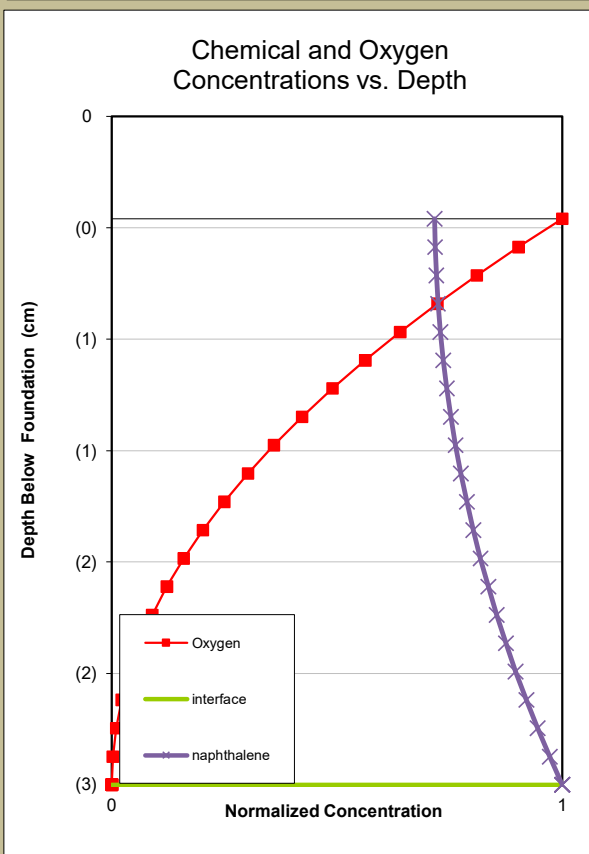
Select Chemical to View


naphthalene

Update Charts

Results Charts (Forward Calculation)

Predicted concentration profile below building foundation





Model Output Screens

VI Risk

Subsurface Profile

Unfitted Results

Commands and Options

Home

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Previous

Unprotect

General Results - Forward Calculations

Depth from building foundation to aerobic/anaerobic interface	Depth from aerobic/anaerobic interface to source	Total Depth
cm	cm	cm
2.54	0.00	2.54

Chemical Specific Results - Forward Calculations

Chemical	Foundation Mass Transfer Resistance	Soil Resistance	Sub-slab to indoor air attenuation factor	Aerobic/anaerobic interface to sub-slab attenuation factor	Source to aerobic/anaerobic interface attenuation factor	Source to indoor air attenuation factor	Source to indoor air attenuation factor (if no biodegradation)
	cm/sec	cm/sec	(-)	(-)	(-)	(-)	(-)
naphthalene	7.84E-05	3.76E-03	1.16E-03	7.16E-01	1.00E+00	8.29E-04	1.13E-03
C5 to C6 Aliphatic	7.84E-05	6.36E-03	1.16E-03	9.81E-01	1.00E+00	1.14E-03	1.14E-03
C6 to C7 Aliphatic	7.84E-05	6.36E-03	1.16E-03	9.81E-01	1.00E+00	1.14E-03	1.14E-03
C7 to C8 Aliphatic	7.84E-05	6.36E-03	1.16E-03	9.80E-01	1.00E+00	1.13E-03	1.14E-03
C9 to C10 Aromatic	7.84E-05	6.36E-03	1.16E-03	9.69E-01	1.00E+00	1.12E-03	1.14E-03
C9 to C10 Aliphatic	7.84E-05	6.36E-03	1.16E-03	9.79E-01	1.00E+00	1.13E-03	1.14E-03
C10 to C11 Aliphatic	7.84E-05	6.36E-03	1.16E-03	9.79E-01	1.00E+00	1.13E-03	1.14E-03
C11 to C12 Aliphatic	7.84E-05	6.36E-03	1.16E-03	9.78E-01	1.00E+00	1.13E-03	1.14E-03

Chemical	Concentration in indoor air	Concentration in sub-slab gas	Concentration at aerobic/anaerobic interface	Concentration at source	Concentration in indoor air (if no biodegradation)	Flux into enclosure	Flux from source
	ug/m <sup>3</sup> -air	ug/m <sup>3</sup> -air	ug/m <sup>3</sup> -air	ug/m <sup>3</sup> -air	ug/m <sup>3</sup> -air	ug/sec	ug/sec
naphthalene	5.56E-03	4.80E+00	6.70E+00	6.70E+00	7.60E-03	3.98E-04	1.6E-02
C5 to C6 Aliphatic	6.02E-01	5.20E+02	5.30E+02	5.30E+02	6.06E-01	4.32E-02	9.3E-02
C6 to C7 Aliphatic	6.02E-01	5.20E+02	5.30E+02	5.30E+02	6.06E-01	4.31E-02	9.6E-02
C7 to C8 Aliphatic	6.01E-01	5.19E+02	5.30E+02	5.30E+02	6.06E-01	4.31E-02	1.0E-01
C9 to C10 Aromatic	2.74E-01	2.37E+02	2.44E+02	2.44E+02	2.79E-01	1.96E-02	8.2E-02
C9 to C10 Aliphatic	1.30E+00	1.13E+03	1.15E+03	1.15E+03	1.32E+00	9.35E-02	2.3E-01
C10 to C11 Aliphatic	1.30E+00	1.13E+03	1.15E+03	1.15E+03	1.32E+00	9.34E-02	2.4E-01
C11 to C12 Aliphatic	1.30E+00	1.12E+03	1.15E+03	1.15E+03	1.32E+00	9.33E-02	2.5E-01

Totals	5.99E+00	5.18E+03	5.29E+03	5.29E+03	6.05E+00	4.30E-01	1.11E+00
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Chemical	Oxygen Demand in Vadose Zone	Minimum O <sub>2</sub> Concentration at top of aerobic zone (i.e., below building foundation)	Oxygen mass flow at the top of aerobic zone
	% of total demand	%	ug/sec
naphthalene	0.01%		
C5 to C6 Aliphatic	0.04%		
C6 to C7 Aliphatic	0.04%		
C7 to C8 Aliphatic	0.04%		
C9 to C10 Aromatic	0.04%		
C9 to C10 Aliphatic	0.11%		
C10 to C11 Aliphatic	0.11%		
C11 to C12 Aliphatic	0.12%		
Baseline Soil Oxygen Demand	99.49%		

Totals	100.00%	1.00%	4.50E+02
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## Appendix L

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CSM Investigation Documentation

Water Resources Program Well Search Results

Water Resources Program Well Log #327775

Vancouver Water Stations and Wellhead Protection Areas Map

Zoning Map

MTCA Table 749-2 Ecological Screening Values

DRAFT

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Water Resources Program Well Search Results



## Well Construction and Licensing Search Tools

### MAP SEARCH RESULTS

[Back](#) [New Search](#)

- **Search Criteria Used:** Left Coordinate: [1078909](#), Right Coordinate: [1084761](#), Top Coordinate: [119701](#), Bottom Coordinate: [114292](#), Well Log Type: [Water Well Logs Only](#)
- There are **1** Well Reports that match your search criteria.

[Download all 1 images](#) | [Download all 1 data records](#) | [Print this page](#) | [Help](#)

Displaying 1 - 1 of **1** well report results    Sort results by [Well Owner Name](#) ▼

1. **A. M. JANNSEN DRILLING CO.** - { [View PDF](#) }  
Public Land Survey: [NW, SW, S-27, T-02-N, R-01-E](#), Tax Parcel Number: [\(blank\)](#)  
County: [Clark](#), Well Address: [21075 S.W. TULATIN VALLEY HIGHWAY ALOHA, OREGON 97005](#)  
Well Report ID: [237775](#), Well Tag ID: [\(blank\)](#), Notice of Intent Number: [\(blank\)](#)  
Well Diameter: [0 in.](#) , Well Depth: [0 ft.](#)  
Well Type: [Water](#)  
Well Completion Date: [\(blank\)](#), Well Report Received Date: [\(blank\)](#)

**Total Result Pages: 1**



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Water Resources Program Well Log #327775

## A. M. JANNSEN DRILLING CO.

21075 S.W. Tualatin Valley Highway  
ALOHA, OREGON 97005

April 29, 1975

92.227540

Boise Cascade Papers  
P. O. Box 690  
Vancouver, Washington 98660

Attention: J. K. Gould

Gentlemen:

Following are the well logs of wells drilled in Vancouver, Washington for Columbia River Paper Mills in 1947, 1948, and 1957:

3-31-47 Well drilled at Vancouver, Washington  
26" Well, 150 feet deep  
Static Water Level 22 feet  
4600 gallons per minute

Log:	0	4	Clay
	4	96	Loose Gravel
	96	100	Gravel & clay, mixed
	100	113	Loose Gravel
	113	150	Cemented Gravel

Casing: 137' 1" of 26"  
18' of 20" -- liner  
Perforations: 10 perforations diametrically, 10" vertically between perforations - from 22 feet to 125 feet.1-22-48 Well drilled at Vancouver, Washington  
26" Well, 137 feet deep  
Static Water Level 22 feet  
4600 gallons per minute

Log:	0	50	Cemented Gravel
	50	112	Loose water bearing gravel
	112	134	Cemented gravel
	134	137	Loose gravel

Casing: 117' 7" of 26" Casing  
24' of 18" perforated liner,  
Perforations: 1211 perforations from 40' to 137'

a. (P)

WATER WELLS -- TEST HOLES -- PUMPS

DRAFT

Page 2

5-10-57 Well drilled at Vancouver, Washington  
Driller: Ace Owens  
26" Well, 127-1/2 feet deep  
Static Water Level 33 feet  
Pump Test not made

Log:        0     50   Dry gravel and boulders  
          50   127 1/2   Boulders and gravel, water bearing

Casing: 127 1/2 ft. of 26" I.D. PE Black

Perforations: 800 perforations from 55 ft. to 125 ft.

Note:     Hole has a slant to the North.

Our records do not contain all the information now required on well logs. I hope the above information will be sufficient for your requirements.

Very truly,

A. M. JANNSEN DRILLING CO.

  
Edward M. Jannsen

jw

**DRAFT**

PERMIT NUMBER  
**62-727649**

NAME  
**NOISE CASCADE**

ADDRESS (STREET)  
**601 W 7th St**

City  
**Portland, OR**

State  
**OR**

County  
**Clatsop**

The applicant is hereby granted a permit to appropriate and to the limitations of the following:

SOURCE  
**3 wells**

TRIBUTARY OF  
**None**

MAXIMUM CUMULATIVE  
**21,280 gpd**

QUANTITY AND  
**21,280 gpd**

APPROXIMATE LOCATION  
**Well No. 7  
Well No. 8  
Well No. 10**

ALL FROM THE  
**None**

AND ALSO WITHIN  
**None**

DATE  
**10/1/55**

BY  
**10/1/55**

DATA CONT.  
**10/1/55**

# DRAFT

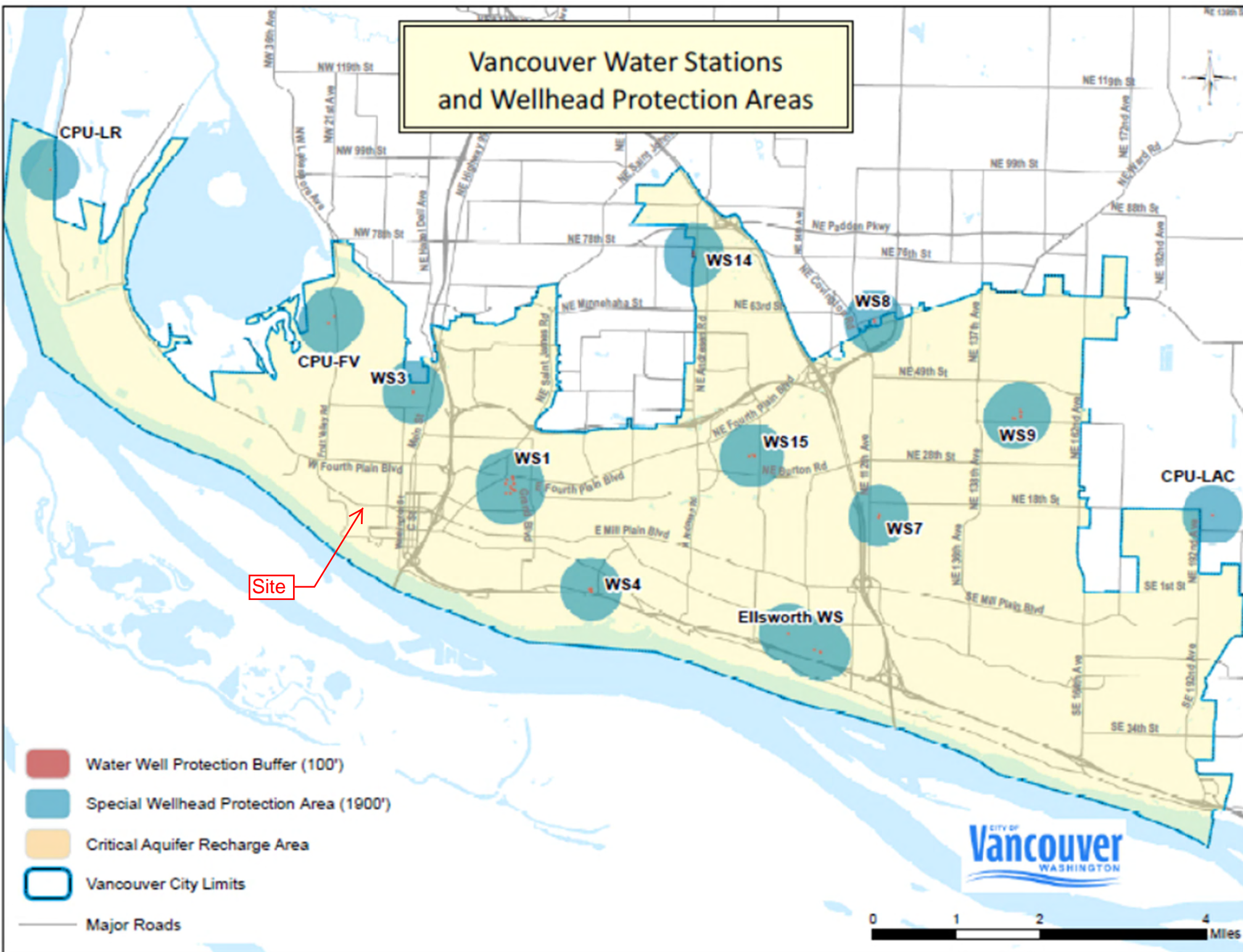
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## Vancouver Water Stations and Wellhead Protection Areas Map



# Vancouver Water Stations and Wellhead Protection Areas



# DRAFT

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Zoning Map





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MTCA Table 749-2 Ecological Screening Values

Table 749-2

**Priority Contaminants of Ecological Concern for Sites  
that Qualify for the Simplified Terrestrial Ecological  
Evaluation Procedure.<sup>a</sup>**

Priority contaminant	Soil concentration (mg/kg)	
	Unrestricted land use <sup>b</sup>	Industrial or commercial site
<b>METALS:<sup>c</sup></b>		
Antimony	See note d	See note d
Arsenic III	20 mg/kg	20 mg/kg
Arsenic V	95 mg/kg	260 mg/kg
Barium	1,250 mg/kg	1,320 mg/kg
Beryllium	25 mg/kg	See note d
Cadmium	25 mg/kg	36 mg/kg
Chromium (total)	42 mg/kg	135 mg/kg
Cobalt	See note d	See note d
Copper	100 mg/kg	550 mg/kg
Lead	220 mg/kg	220 mg/kg
Magnesium	See note d	See note d
Manganese	See note d	23,500 mg/kg
Mercury, inorganic	9 mg/kg	9 mg/kg
Mercury, organic	0.7 mg/kg	0.7 mg/kg
Molybdenum	See note d	71 mg/kg
Nickel	100 mg/kg	1,850 mg/kg
Selenium	0.8 mg/kg	0.8 mg/kg
Silver	See note d	See note d
Tin	275 mg/kg	See note d
Vanadium	26 mg/kg	See note d
Zinc	270 mg/kg	570 mg/kg
<b>PESTICIDES:</b>		
Aldicarb/aldicarb sulfone (total)	See note d	See note d
Aldrin	0.17 mg/kg	0.17 mg/kg
Benzene hexachloride (including lindane)	10 mg/kg	10 mg/kg
Carbofuran	See note d	See note d
Chlordane	1 mg/kg	7 mg/kg
Chlorpyrifos/chlorpyrifos-methyl (total)	See note d	See note d
DDT/DDD/DDE (total)	1 mg/kg	1 mg/kg
Dieldrin	0.17 mg/kg	0.17 mg/kg
Endosulfan	See note d	See note d
Endrin	0.4 mg/kg	0.4 mg/kg
Heptachlor/heptachlor epoxide (total)	0.6 mg/kg	0.6 mg/kg
Hexachlorobenzene	31 mg/kg	31 mg/kg
Parathion/methyl parathion (total)	See note d	See note d
Pentachlorophenol	11 mg/kg	11 mg/kg
Toxaphene	See note d	See note d

<b>OTHER CHLORINATED ORGANICS:</b>		
Chlorinated dibenzofurans (total)	3E-06 mg/kg	3E-06 mg/kg
Chlorinated dibenzo-p-dioxins (total)	5E-06 mg/kg	5E-06 mg/kg
Hexachlorophene	See note d	See note d
PCB mixtures (total)	2 mg/kg	2 mg/kg
Pentachlorobenzene	168 mg/kg	See note d
<b>OTHER NONCHLORINATED ORGANICS:</b>		
Acenaphthene	See note d	See note d
Benzo(a)pyrene	30 mg/kg	300 mg/kg
Bis (2-ethylhexyl) phthalate	See note d	See note d
Di-n-butyl phthalate	200 mg/kg	See note d
<b>PETROLEUM:</b>		
Gasoline Range Organics	200 mg/kg	12,000 mg/kg except that the concentration shall not exceed residual saturation at the soil surface.
Diesel Range Organics	460 mg/kg	15,000 mg/kg except that the concentration shall not exceed residual saturation at the soil surface.

**Footnotes:**

- a** Caution on misusing these chemical concentration numbers. These values have been developed for use at sites where a site-specific terrestrial ecological evaluation is not required. They are not intended to be protective of terrestrial ecological receptors at every site. Exceedances of the values in this table do not necessarily trigger requirements for cleanup action under this chapter. The table is not intended for purposes such as evaluating sludges or wastes. This list does not imply that sampling must be conducted for each of these chemicals at every site. Sampling should be conducted for those chemicals that might be present based on available information, such as current and past uses of chemicals at the site.
- b** Applies to any site that does not meet the definition of industrial or commercial.
- c** For arsenic, use the valence state most likely to be appropriate for site conditions, unless laboratory information is available. Where soil conditions alternate between saturated, anaerobic and unsaturated, aerobic states, resulting in the alternating presence of arsenic III and arsenic V, the arsenic III concentrations shall apply.
- d** Safe concentration has not yet been established. See WAC 173-340-7492(2)(c).