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CLEANUP ACTION REPORT

Former Harbour Point Cleaners
Suite B6, Mukilteo Speedway Center
13619 Mukilteo Speedway
Lynnwood, Washington 98087
Washington State Department of Ecology Facility ID: 41352598
Washington State Department of Ecology Voluntary Cleanup Program No. NW2902
ATC PROJECT NO. 282 EM 0017 / NPWRI 18001

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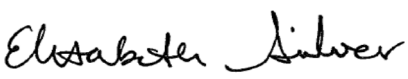

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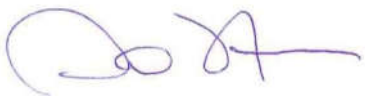

Andrew D. Stuart
National Program Director

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ACRONYMS AND ABBREVIATIONS

ARAR	Applicable or Relevant and Appropriate Requirements
bgs	below ground surface
BEA	Buchanan Environmental Associates
CAR	Cleanup Action Report
DCE	dichloroethene (dichloroethylene)
COC	Contaminant/Chemical of Concern
CSID	Cleanup Site identification number
CSM	Conceptual Site Model
CUL	clean-up levels
cVOC	chlorinated volatile organic compound
DCA	Disproportionate Cost Analysis
Ecology	Washington State Department of Ecology
FS	feasibility study
FSID	Facility Site identification number
MTCA	Model Toxics Control Act
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
µg/L	micrograms per liter
µg/kg	micrograms per kilogram
µg/m^3	micrograms per cubic meter
O&M	operations and maintenance
PCE	tetrachloroethene
PID	Photoionization detector
PVC	polyvinyl chloride
RCW	Revised Code of Washington
SSD	subslab depressurization
SVE	Soil vapor extraction
TCE	trichloroethene
TEE	Terrestrial Ecological Evaluation
TPH	total petroleum hydrocarbon
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WAC	Washington State Administrative Code

Executive Summary

This document presents the Cleanup Action Report (CAR) for the former Harbour Point Dry Cleaners tenant space Site within the Mukilteo Speedway Center at 13619 Mukilteo Speedway, Lynnwood, Washington (**Figure 1)**. This CAR was prepared for the Washington State Department of Ecology (Ecology) on behalf of Weingarten Realty Investors (WRI). This CAR has been prepared to meet the requirements of the Model Toxics Control Cleanup Act (MTCA) administered by Ecology under Chapter 173-340 of the Washington Administrative Code (WAC). This CAR describes the historical environmental assessment activities, associated cleanup actions completed to date, and additional documentation that is intended to demonstrate that the completed cleanup action has attained the site cleanup requirements.

Background

This Cleanup Action Report describes the results of historical soil and groundwater sampling, monthly subslab depressurization (SSD) system operations and maintenance (O&M), quarterly ambient air sampling, indoor space clean-up, and post clean-up confirmation subslab and indoor air sampling at the former Harbour Point Dry Cleaners tenant space (**Figure 2**).

The SSD system was installed in order to remove mass and mitigate the potential for vapor intrusion from residual impacts in subsurface soil and/or soil vapor that were previously identified to be impacted by volatile organic compounds (VOCs), including tetrachloroethene (PCE). PCE was formerly used at the tenant space as a dry cleaning solvent. Installation and operation of the SSD system was intended to mitigate the potential for PCE to migrate through the concrete floor slab and into the building, to reduce the risk to human health and the environment, and to further comply with the Model Toxics Control Act (MTCA) and its implementing regulations, Chapter 70.105D of the Revised Code of Washington (RCW) and Chapter 173- 340 of the Washington Administrative Code (WAC).

Details regarding the selection of the SSD system as the preferred mitigation approach were detailed in ATC's September 17, 2015 *Feasibility Study and Disproportionate Cost Analysis,* the Washington State Department of Ecology's (Ecology) April 4, 2016 Opinion Letter, and a June 28, 2016 meeting between Ecology, WRI, and ATC. A subslab depressurization report was submitted to Ecology dated February 26, 2018. Following review of the report, Ecology requested in a phone meeting that additional subslab sampling be conducted following clean-up of the former dry cleaners space. The space was cleaned on June 28, 2018, and subslab, indoor, and outdoor air sampling was conducted on July 6, 2018.

Cleanup Action Overview

The SSD system consists of an extraction point and associated riser pipe constructed of schedule 40 polyvinyl chloride (PVC). The riser pipe is plumbed vertically from the subslab to a one horsepower regenerative blower mounted to the building roof. The vertical riser pipe is secured against a shared wall between the west-adjacent tenant space and the former Harbour Point Cleaners tenant spaces. Beneath the building slab, the extraction piping consists of 4-inch diameter PVC piping and reduces to 2-inch diameter PVC piping at a height of approximately 3 feet above the building slab. The effluent air removed from the extraction point is discharged from

the blower through a stack constructed of schedule 80 PVC. Operation of the SSD system commenced on January 23, 2017 and continued without interruption through June 30, 2018. During the period of SSD system operations, effluent air samples were collected periodically, generally on a monthly basis, for analysis of VOCs via EPA Method TO-15. In addition, vacuum responses and field measurement of VOC concentrations were obtained from peripheral subslab monitoring points SV-1 through SV-5 in order to evaluate the extent of subslab vacuum influence and transient changes in VOC concentrations in the subslab samples. During the period between March 2017 and July 2018, indoor air samples were obtained over an 8-hour period on a quarterly basis from the interior of the former Harbour Point cleaner space and the adjacent, vacant tenant space to the west. Concurrent outdoor air samples were also collected during select quarterly indoor air sampling events in order to further evaluate the potential contribution of VOCs detected in ambient air to concentrations detected in indoor air.

The Harbour Point dry cleaners space was subsequently vacated in May 2018. Decommissioning of the dry cleaner space included removal of all above-ground features and appurtenances of the dry cleaning operation, including the dry cleaning machine, spot cleaning and pressing tables, containers of spot cleaning agents, dry cleaning solvents, waste filters, and spent solvent wastes. In addition, the interior floor and walls of the former dry cleaning space were professionally cleaned, most of the ventilation system duct work and sections of stained wallboard were removed. Also, all drop ceiling panels were removed, and interior floor drains were flushed. The cleaning and decommissioning activities were completed on June 28, 2018 and the SSD system was shutdown. Following the cleanup of the building interior, subslab, ambient, and indoor air sampling was conducted on July 6, 2018. The laboratory analytical results of the sampling activities performed on July 6, 2018 are intended to represent the current, post-remediation site conditions, absent the influence of the SSD system operation.

Based on data presented in previous reports and summarized in this CAR report, numerous site investigation activities and successful remedial activities have been performed at the site. Historical concentrations of PCE in soil have never exceeded MTCA Method B direct contact cleanup levels and are below MTCA Method A cleanup levels at depths of greater than 3 feet below grade. In addition, historical groundwater monitoring and sampling demonstrate that groundwater has not been impacted by dry cleaning chemicals at concentrations in excess of MTCA Method A cleanup levels. Operation of the SSD remediation system over a period of approximately 17 months resulted in reductions in both the mass and concentration of PCE that remain in the subsurface. The results of post-remediation subslab vapor sampling performed while the SSD system was not in operation, indicate that the current site conditions meet applicable Method B and/or Method C cleanup levels. Similarly, the indoor air sampling results demonstrate that the post-remediation concentrations of PCE and TCE in indoor air are below Method B cleanup levels even without operation of the SSD system.

Conclusions and Recommendations

In consideration of these factors and the results of the post-remediation subslab vapor and indoor air sampling, the current site conditions are not considered to represent a significant vapor intrusion threat under a commercial land use scenario. As such, it is ATC's opinion that continued operation of the SSD system is no longer warranted. **ATC requests Ecology review this CAR report for concurrence that Site Characterization and Cleanup are complete and that an Opinion of NFA is warranted.**

1.0 Introduction

This CAR was prepared to describe the selected cleanup action conducted at the former Harbour Point Dry Cleaners tenant space within the Mukilteo Speedway Center at 13619 Mukilteo Speedway, Lynnwood, Washington.

1.1 Purpose

This document is the Cleanup Action Report (CAR) for the former Harbour Point Dry Cleaners Site located near Mukilteo, Washington. The general location of the Site is shown in **Figure 1** and the Site layout is shown on **Figures 2 and 3.** A CAR is required as part of the site cleanup process under Chapter 173-340 WAC, Model Toxics Control Act (MTCA) Cleanup Regulations. The purpose of the CAR is to describe the selected cleanup action for the Site. More specifically, this report includes details regarding the following:

- General site history and current site details;
- Current site conditions;
- Historical monitoring and sampling performed during the cleanup action process;
- Site-specific cleanup levels and points of compliance for each hazardous substance and medium of concern for the proposed cleanup action;
- Applicable state and federal laws for the selected cleanup action; and
- Summary of the results of post-remedy implementation confirmation sampling.

1.2 Previous Studies

The former Harbour Point Cleaners is located in Building B, in tenant space B6 (**Figure 2**), and operated as a dry cleaning facility at the property from approximately 1992 through May 2018. Between 1992 and 2007 the facility utilized the chlorinated volatile organic compound (cVOC), tetrachloroethene (also known as tetrachloroethylene or perchloroethylene [PCE]) as the dry cleaning solvent. The presence of PCE in the subsurface is regulated in Washington State by Ecology under the MTCA. In 2007, the operators switched from PCE to a petroleum hydrocarbon based cleaning solvent. Numerous investigations have been conducted at the Site from 2006 to the present. A detailed summary of historical site investigation and remediation activities is provided in Section 2.1 of this report.

1.3 Regulatory Framework

The intent of this CAR is to meet the requirements of the Washington State MTCA as implemented in the MTCA Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code (WAC).

2.0 Site Description

The Site is registered with Ecology as Facility/Site (F/S) ID 41352598, as Harbour Point Cleaners Lynnwood, and is also listed as Voluntary Cleanup Program (VCP) ID NW2864. There are five (5) listed active Washington State Cleanup sites located in within 0.5 miles of the Site. The five sites are listed below.

- The WA DOT Parcel site between SR 525 and Lake Road (F/S ID 9583544) and the Bug Haus site at 13515 Lake Road (F/S ID 7565842) are both located less than 0.2 miles to the north of the Site.
- The Progressive Casualty Insurance Co. site (F/S ID 5712210) is located approximately 0.25 miles to the south-southeast of the Site.
- The Lee & S Enterprises Tire Fire site (F/S ID 78849511) is located approximately 0.25 miles to the east of the Site.
- The Fleury Auto & Truck parts site (F/S ID 10248) is located approximately 0.5 miles to the northeast of the Site.

2.1 Site History

The Site is located within the Mukilteo Speedway Center, 13619 Mukilteo Speedway in Lynnwood, Snohomish County, Washington. The Site consists of six irregular-shaped parcels encompassing 7.80 acres of land (**Figure 1**). The Mukilteo Speedway Center was constructed in 1992 and is a retail shopping center located approximately 1.5 miles west of Interstate 5 with Mukilteo Speedway along the west property perimeter, Lincoln Way located along the south property line, and State Highway 99 located along the east property line. The shopping center is improved with four generally rectangular-shaped buildings designated Buildings A though D (Buildings A and B are in the north portion of the property and Buildings C and D are in the south portion of the property).

The former Harbour Point Cleaners is located in Building B, in tenant space B6 (**Figure 2**), and operated as a dry cleaning facility from approximately 1992 until May 2018. Between 1992 and 2007 the facility utilized the chlorinated volatile organic compound (cVOC), tetrachloroethene (also known as tetrachloroethylene or perchloroethylene [PCE]) as the dry cleaning solvent. The presence of PCE in the subsurface is regulated in Washington State by Ecology under MTCA. In 2007, the operators switched from PCE to a petroleum hydrocarbon-based dry cleaning solvent.

2.1.1 Historical Investigation Activities

Environmental assessment activities were initiated at the Site in June 2006 by Buchanan Environmental Associates (BEA). The initial 2006 investigation included the advancement of two soil borings to a maximum depth of 2.75 feet below ground surface (bgs) within the tenant space in the vicinity of the dry cleaning equipment and the installation of one groundwater monitoring well (MW-1) exterior to Building B and to the east of the southeast corner of the building. The assessment activities were initiated to evaluate the potential presence of PCE and any associated degradation compounds such as trichloroethene (trichloroethylene [TCE]), cis-1,2-dichloroethene (cis-1,2-dichloroethylene [cis-DCE]), trans-1,2-dichloroethene (trans1,2-dichloroethylene [trans-DCE]), 1,1-dichloroethene (1,1-dichloroethylene [1,1-DCE]), and vinyl chloride. The locations of the two interior soil borings advanced by BEA were not plotted on any site maps included in the 2006

report. However, these borings were reportedly located "behind the dry cleaner machine". The investigation identified the presence of PCE and TCE in shallow soil within the vicinity of the dry cleaning machine. Soil boring B-1 was only able to be advanced to 1 foot bgs, where a single soil sample was collected from the boring. Soil boring B-2 was advanced to 2.75 feet bgs and three soil samples from three separate depths were collected for analysis. Soil samples from all of the samples contained concentrations of PCE above the MTCA Method A soil cleanup level (0.05 mg/kg). TCE was also detected in soil samples collected from boring B-2, although at concentrations below all associated cleanup levels. Soil boring logs from this and subsequent investigations are included in **Appendix A**. Historical soil analytical data are summarized in **Table 1**.

Between June and August, 2006, BEA installed a total of five groundwater monitoring wells, designated MW-1 through MW-5, to total depths between 15 and 25 feet bgs. The wells were installed outside of the dry cleaning tenant space (**Figure 3**). A groundwater sample collected from groundwater monitoring well MW-1 in June 2006 contained concentrations of several volatile organic compounds (VOCs) which are typically associated with petroleum hydrocarbons, including toluene, ethylbenzene, xylene, and naphthalene, but at concentrations below MTCA regulatory cleanup or risk-based formula values. BEA suggested that the VOCs may be from an offsite source or were inadvertently introduced during well construction. Laboratory analytical results from groundwater samples collected from groundwater monitoring wells MW-1 through MW-3 in July, 2006 identified the presence of VOCs, with only chloroform present in the sample from MW-2 at a concentration (2.0 µg/L) just above the MTCA Method B cleanup level of 1.41 µg/L. Laboratory analytical results from groundwater samples collected from groundwater monitoring wells MW-1 through MW-5 in August 2006 did not identify any VOCs above their respective cleanup levels. A summary of historical groundwater analytical results is provided in **Table 2**.

In August, 2006 BEA also advanced a soil boring, B-6, south of the tenant space, to 9 feet bgs in order to assess soil in the vicinity of the subsurface sanity sewer utilized by the dry cleaning facility. No VOCs were detected in soil samples collected from within the backfill of a connecting cleanout pipe (**Table 1**).

Based on the lack of detected concentrations of PCE and any associated degradation compounds in groundwater samples at concentrations above MTCA regulatory cleanup or risk-based values, BEA did not recommend further investigation. However, BEA recommended that the dry cleaning machine be retro-fitted with secondary containment and that the use of PCE as a dry cleaning solvent be discontinued.

EBI Environmental and Engineering (EBI), conducted additional assessment activities in March 2013. During this investigation, two soil boring (B-1 and B-2) were advanced south and north of the tenant space, respectively. Three additional soil borings (B-3 through B-5) were advanced within the tenant space and in the vicinity of the dry cleaning machine (**Figure 2**). Groundwater was not encountered in any of the soil borings, including soil boring B-1, which was advanced to 25 feet bgs to the south of the tenant space. Laboratory analytical results of selected soil samples indicated the presence of PCE in soil boring B-3, but at a concentration below the MTCA Method A soil cleanup level of 0.05 mg/kg (**Table 1**).

EBI also collected soil gas samples from 5 feet bgs in soil borings B-3 through B-5. Laboratory analytical results indicated a concentration of 20 micrograms per cubic meter (µg/m^3) PCE and 7.0

µg/m^3 TCE detected in the soil gas sample collected from soil boring B-3 and concentrations of 4.8 and 2.4 µg/m^3 PCE detected in the soil gas samples collected from soil borings B-4 and B-5 respectively. TCE was not detected above analytical detection limits in the soil gas samples collected from soil borings B-4 and B-5. The concentration of PCE and TCE in the soil gas sample collected from soil boring B-3 and the concentration of PCE in the soil gas samples collected from soil borings B-4 and B-5 are below the Draft 2015 MTCA Method B Subslab Soil Gas Screening Level for PCE of 320.5 µg/m^3 and TCE of 12.3 µg/m^3. A summary of historical soil vapor analytical data from this and subsequent investigations is provided in **Table 3**.

In 2014, Weingarten requested that CardnoATC collect shallow soil samples in locations throughout the interior of the tenant space to laterally and vertically delineate the cVOC impacts, previously identified in soil. The scope of work included advancing seven soil borings, designated B-6 through B-12 by direct push drilling technology (**Figure 2**) until drilling refusal was encountered. Free groundwater was not encountered in any of the soil borings, which reached a maximum depth of 10 feet bgs.

Laboratory analytical results indicate that PCE was detected in soil samples collected from shallow soil in borings B-9, B-10, and B-12. Concentrations of PCE above Ecology's MTCA Method A soil cleanup level for unrestricted land use of 0.05 mg/kg, were detected in the soil samples collected from between ground surface and 1 foot bgs in boring B-9 (0.111 mg/kg), in boring B-10 (0.208 mg/kg), and boring B-12 (0.156 mg/kg). Based on these results CardnoATC recommended further assessment to laterally delineate the extent of impacted soil, predominantly to the west and the east. On behalf of Weingarten, CardnoATC submitted the findings from the 2014 assessment work along with the previous assessment reports to Ecology to solicit an opinion from Ecology through the Voluntary Cleanup Program (VCP) on the need for further assessment.

On October 17, 2014, Ecology provided an Opinion Letter which recommended the further characterization of impacts to subsurface at the Site from dry cleaning activities along with an assessment of vapor intrusion pathways at the Site.

On January 29, 2015, CardnoATC contracted Environmental Services Network Northwest (ESN) of Olympia, Washington to advance 11 soil borings (B-13 through B-23) using direct push technology (DPT) in locations that would assist to laterally delineate areas of cVOC impacted soil identified during previous investigations (**Figure 2**). In order to perform a Tier I vapor intrusion assessment, as per Ecology's Draft *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Publication no. 09-09-047, October 2009. CardnoATC used a hand-held power drill to penetrate the building slab and collect samples of subslab soil vapor. Three subslab soil vapor samples (VE-1, VE-2, and VE-3) were collected in the vicinity of the dry cleaning machine (**Figure 5**).

PCE was detected in shallow soil samples collected from soil borings B-13, B-14, and B-16 at depths of 1 foot bgs and in boring B-15 at depths of 1 and 2 feet bgs. Soil samples collected from below the slab to 1 foot bgs in soil borings B-14 and B-15, (soil samples B-14-1 and B-15-1), contained concentrations of PCE above the MTCA Method A cleanup level for unrestricted land use (i.e., 0.05 mg/kg). Soil sample B-14-1 contained a concentration of 0.0696 mg/kg and soil sample B-15-1 contained a concentration of 0.315 mg/kg. All other detected concentrations of PCE were below the MTCA Method A cleanup level for unrestricted land uses. None of the soil samples collected from the 3 to 4 feet bgs interval contained concentrations of PCE or any other cVOC above

laboratory method reporting limits. A summary of laboratory analytical results from historical soil sampling is provided in **Table 1**.

PCE and TCE were detected in temporary subslab vapor samples VE-1, VE-2, and VE-3 at concentrations above the MTCA Method B Subslab Soil Gas Screening Levels. The maximum concentrations of PCE (10,000 µg/m^3) and TCE (66.1 µg/m^3) were detected in subslab vapor sample VE-1. The analytical laboratory denoted that the subslab concentration of PCE in soil vapor sample VE-1 was above quantitation range. The MTCA Method B Subslab Soil Gas Screening Levels for PCE and TCE based on the cancer endpoint are 320.5 and 12.3 µg/m^3 respectively. Other cVOCs, including 1,1,1-trichloroethane and dichlorodifluoromethane (CFC-12 or Freon 12), were detected in soil vapor samples VE-1, VE-2, and VE-3, but at concentrations below the respective MTCA Method B Subslab Soil Gas Screening Levels. The assessment work performed for Weingarten in response to the Ecology Opinion Letter dated October 17, 2014, demonstrated that PCE-impacted soil vertically attenuated to concentrations below laboratory method reporting limits within the upper 3 feet bgs and was laterally limited to within the former Harbour Point Cleaners tenant space, and to the west where it extended into the adjacent tenant space. Based on this data, CardnoATC recommended to Weingarten the development of a feasibility study that would include additional assessment of Site soil, subslab vapor, and indoor air, an evaluation of preferential pathways, and an inventory of hazardous materials stored at the Site to assess potential sources of indoor air contaminants. A summary of laboratory analytical results for indoor air is provided in **Table 4**.

2.1.2 Historical Remediation Activities

On September 17, 2015 CardnoATC submitted a Feasibility Study (FS) with a Disproportionate Cost Analysis (DCA) on behalf of Weingarten Realty Investors (WRI). The objective of the FS was to present a brief screening of remedial alternatives and select a remedial technology that was reasonable, technically feasible, and cost effective through a DCA.

Based on ATC's FS and DCA, Ecology's April 4, 2016 Opinion Letter, and a June 28, 2016 meeting between Ecology, WRI, and ATC, WRI selected soil vapor extraction through subslab depressurization (SSD) as a viable cleanup alternative to best protect human health from the potential vapor intrusion migration pathway.

In October 2016, ATC conducted a pilot test to evaluate the efficiency of a proposed SSD system. The results of the subslab depressurization pilot test indicated that extraction of subslab vapor from a single extraction point resulted in a radius of influence that extended well beyond the limits of PCE impacted soil and/or soil vapor. The results of this evaluation indicate that extraction from a single point at an applied vacuum of 10 inches WC and flow rate of 22 CFM resulted in a subslab vacuum response in excess of 0.04" WC (10 pascals) at a radial distance of greater than 50 feet. ATC concluded that the pilot test indicates that a SSD system installed with vacuum supplied near the location of former boring SP-1 would likely be an effective means of mitigating vapor intrusion of PCE and recommended that WRI proceed with the design and installation of a SSD system.

The SSD system was subsequently installed in January 2017. The system consisted of schedule 40 polyvinyl chloride (PVC) riser pipe plumbed vertically from the subslab to a one horse power regenerative blower mounted to the building roof. The vertical riser pipe was secured against a shared wall between the west-adjacent tenant space and the former Harbour Point Cleaners

tenant spaces and consisted of 4-inch diameter pipe from the slab to approximately three feet above grade reduced to 2-inch diameter pipe above. The effluent air was discharged from the blower through a stack constructed of schedule 80 PVC. Effluent air samples were collected from an access port installed directly on the stack. The SSD system commenced operation at 15:00 on January 23, 2017. Results of 2017 O&M and sampling were summarized in ATCs SSD Report dated February 26, 2018. Historical O&M data associated with operation of the SSD system are summarized in **Tables 5 through 9**.

During the period following the initial SSD system O&M event, site visits and routine SSD system O&M activities, including collection and analysis of SSD system effluent samples, were performed on a monthly basis. Routine monthly O&M activities performed during each monthly O&M event included the following:

- Recording the vacuum within the SSD system conveyance pipe in negative inches water column (-in. WC);
- Measuring air velocity within the effluent stack in feet per minute (fpm) with a handheld anemometer;
- Measuring VOC concentrations in effluent air using a photoionization detector (PID);
- Calculating an hour reading for blower operation; and
- Collecting a representative sample of SSD system effluent using a Summa canister for analysis of VOCs by EPA Method TO-15.

In addition to routine monthly O&M activities, indoor air sampling was performed within the dry cleaner suite and the vacant suite immediately west on a quarterly basis. During the December 2017 and July 2018 quarterly indoor air sampling events, three ambient air samples were collected at various locations to the west, south, and east of the dry cleaner suite.

The 2017 SSD Report summarized that the SSD system effectively depressurized the area immediately beneath the building slab and mitigated the potential for migration of vapors beneath the building slab to indoor air. In addition, operation of the SSD system over a period of approximately 17 months resulted in reductions in PCE and TCE concentrations in subslab soil vapor and indoor air. During the four previous indoor air sampling events, concentrations of PCE in indoor air remained below the MTCA Method C indoor air screening levels. However, TCE was detected in indoor air at concentrations slightly in excess of the MTCA Method C indoor air screening level. Based on the data collected to date, it appeared that emissions or releases from an offsite source or sources may contribute to the concentrations of certain VOCs detected in indoor air. In addition, the results of contemporaneous sampling of SSD effluent and indoor air indicated that the total VOC concentrations in SSD effluent were either consistent with or lower than the concentrations of VOCs detected in indoor air. This observation suggested that the presence of VOCs in indoor air was not related to the vapor intrusion pathway. Indoor and outdoor air sampling data from the December 2017 and July 2018 sampling events are summarized in **Tables 8 and 9**, respectively.

SSD System Operational Summary

The SSD system consisted of schedule 40 polyvinyl chloride (PVC) riser pipe plumbed vertically from the subslab to a blower mounted to the building roof. Operation of the SSD system

commenced at 15:00 on January 23, 2017. Additional details regarding the SSD system are included in ATC's SSD System Report dated February 26, 2018.

Routine SSD system operation and maintenance (O&M) activities were performed from March 2017 through June 28, 2018, when the SSD system was shut down. Activities performed during routine O&M events included collection of system flow and vacuum readings, the collection of effluent air samples from the sample port located on the effluent stack, and field measurement of subslab vacuum response and VOC concentrations in subslab vapor probes SV-1 through SV-5. On a quarterly basis, indoor air samples were obtained from within the former Harbour Point dry cleaning facility and the west-adjacent tenant space over an 8-hour period. Beginning in December 2017, the quarterly outdoor air samples were also obtained from representative locations outside the building. Sample locations are shown on **Figures 6 and 7**.

During the final O&M event, subslab soil vapor samples were collected from the five subslab vapor probes (SV-1 through SV-5) installed within the former Harbour Point dry cleaning tenant space for subsequent laboratory analysis. Laboratory analysis was performed by Fremont Analytical, an Ecology accredited analytical laboratory; each sample was analyzed for select volatile organic compounds (VOCs) by EPA Method TO-15. The air samples were analyzed for those VOCs associated with PCE, which includes degradation compounds, produced through the de-chlorination of PCE: TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and vinyl chloride.

The cumulative results of the SSD system O&M events indicated that a total of approximately 0.72 pounds of VOCs were removed from the subsurface soil during its operation. **Table 7** provides a summary of SSD system VOC removal rates during the period of operation.

2.1.3 2018 Dry Cleaning Facility Decommissioning

In May and June 2018, prior to the final O&M event, the former dry cleaners space was vacated, and interior floor and wall surfaces suspected to have been impacted from historical dry cleaning operations were decontaminated and/or removed. Decontamination and cleaning activities were performed by Clean Harbors. Prior to decommissioning, indoor building materials were tested for asbestos containing materials (ACM). The results of this analysis did not identify the presence of ACM in interior building materials.

Decommissioning and cleaning included washing the floor and walls, removal and disposal of ceiling panels, air vent ducting and insulation material, and stained drywall, and flushing of the sewer drains in the dry cleaner space. All removed material was disposed at a licensed facility by Clean Harbors.

2.1.4 2018 Post-Remediation Confirmation Sampling

On July 6, 2018, following decommissioning of the former dry cleaner tenant space, ATC collected confirmation subslab vapor samples from existing subslab vapor points SV-1 through SV-5. In addition, indoor air confirmation samples were obtained within the former dry cleaner suite (IA-1) and the adjacent vacant tenant suite to the west (IA-2). Concurrent outdoor air samples were obtained at three locations outside the building (OA1, OA2, and OA3) in order to evaluate the influence of background concentrations of VOCs on the indoor air sampling results. The indoor

and outdoor air samples were collected over an 8-hour period and neither the SSD system nor HVAC system were in operation during the sampling event. Consequently, the results from this analysis are intended to represent baseline conditions following decommissioning of the dry cleaner facility.

VOCs that were detected in subslab vapor samples collected during the post-remediation confirmation sampling event included carbon tetrachloride, ethanol, ethylbenzene, 4-ethyltoluene, trichlorofluoromethane, dichlorofluoromethane, 2-propanol, PCE, tetrahydrofuran, toluene, TCE, 1,2,4-trimethylbenzene, 1,1,1-trichloroethane, and xylenes. VOCs that were detected in subslab vapor samples at concentrations in excess of MTCA Method B or Method C Screening Levels are summarized below:

- PCE was detected in subslab vapor samples SV-1 through SV-4 at concentrations ranging from 4.04 µg/m^3 (SV-5) to 1,160 µg/m^3 (SV-1). MTCA Method B and Method C Screening levels for PCE in subslab soil vapor are 321 and 1,333 µg/m^3, respectively. PCE concentrations in all subslab vapor samples were below the MTCA Method C screening level, while only the PCE concentration in subslab vapor probe SV-1 exceeded the MTCA Method B screening level. The average concentration of PCE in confirmation subslab vapor samples (277 µg/m^3) is below both the MTCA Method B and C screening levels. Consequently, the post-remediation concentrations of this constituent in subslab vapor are not considered to represent a significant vapor intrusion threat.
- TCE was detected in 3 of 5 subslab vapor samples (SV-1, SV-3, and SV-4) at concentrations ranging from 1.65 µg/m^3 (SV-4) to 16.1 µg/m^3 (SV-3). MTCA Method B and Method C Screening levels for TCE in subslab soil vapor are 12.3 and 66.7 µg/m^3, respectively. TCE concentrations in all subslab vapor samples were below the MTCA Method C screening level, while the TCE concentration in subslab vapor probe SV-3 slightly exceeded the MTCA Method B screening level. The average concentration of TCE in confirmation subslab vapor samples (<8.7 µg/m^3) is below both the MTCA Method B and C screening levels. Consequently, the post-remediation concentrations of this constituent in subslab vapor are not considered to represent a significant vapor intrusion threat.

VOCs that were detected in both indoor and outdoor air during the post-remediation confirmation sampling event included acetone, chloromethane, ethanol, trichlorofluoromethane, dichlorofluoromethane, n-hexane, 2-propanol, and toluene. VOCs that were detected only in indoor air samples included 1,4-dichlorobenzene, styrene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylenes. Neither PCE nor TCE were detected in any indoor or outdoor air samples obtained during the confirmation sampling event. VOCs that were detected in indoor air at concentrations in excess of MTCA Method B or Method C Screening Levels are summarized below:

- 1,4-dichlorobenzene was detected in indoor air at concentrations ranging from 1.43 to 2.87 µg/m^3. MTCA Method B and Method C Screening levels for 1,4-dichlorobenzene are 0.227 and 2.27 µg/m^3, respectively. The average concentration of 1,4-dichlorobenzene detected in indoor air is below the MTCA Method C Screening level. Consequently, the presence of this constituent in indoor air does not appear to represent a significant threat to future building occupants. 1,4-dichlorobenzene was not detected in any confirmation

subslab vapor samples. Therefore, the presence of this constituent in indoor air does not appear to be related to a vapor intrusion source.

- 1,2,4-trimethylbenzene was detected in one indoor air sample (IA-2) at a concentration of 5.49 µg/m^3. MTCA Method B and Method C Screening levels for 1,2,4-trimethylbenzene are 3.2 and 7.0 µg/m^3, respectively. The average concentration of 1,2,4-trimethylbenzene in indoor air is below the MTCA Method B and Method C Screening levels. Consequently, the presence of this constituent in indoor air does not appear to represent a significant threat to future building occupants. 1,2,4-trimethylbenzene was detected in 2 of 5 subslab vapor samples at concentrations ranging from 1.05 µg/m^3 (SV-2) to 1.85 µg/m^3 (SV-5). Given that the subslab concentrations of this constituent are lower than the indoor air concentrations, the presence of this constituent in indoor air does not appear to be related to a vapor intrusion source.

Table 3 provides a summary of historic and confirmation subslab vapor samples obtained during this investigation. Laboratory analytical reports from all 2018 sampling activities are included in **Appendix C**.

2.2 Human Health and Environmental Concerns

A Conceptual Site Model is a summary that describes all of the known or suspected sources of contamination, the exposure pathways, and the current and reasonably likely future human or environmental receptors. Previous environmental assessment activities indicate that PCE above MTCA Method A cleanup levels is limited to the upper three feet of soil beneath the building slab in the vicinity of the former dry cleaning machine and spot cleaning areas. PCE was not detected in any soil samples at concentrations in excess of MTCA Method B direct Contact cleanup levels. In addition, PCE and TCE have historically been detected in subslab soil vapor at concentrations in excess of MTCA Method B Soil Gas Screening Levels. PCE was not detected in groundwater samples obtained from five onsite groundwater monitoring wells. Given the limited vertical extent of PCE impacted soil, the documented subsurface impact does not represent a significant threat to groundwater.

As shown on the Conceptual Site Model on **Figure 8**, no exposure pathway exists for free product, or for surface water and sediment, as these secondary sources are not present at the Site. Potential exposure pathways are possible from the secondary sources of groundwater, indoor air, and shallow soil. As shown on the CSM, some of these potential exposure pathways are complete, but are considered insignificant as described below.

2.2.1 Human Health

The former Harbour Point dry cleaner tenant space is currently vacant and there are no current human receptors. Shallow soil impacts have not impacted groundwater and are below the MTCA Method B direct contact cleanup levels. With the exception of two constituents (i.e., 1,4-dichlorobenzene and 1,2,4-trimethylbenzene), the current concentrations of VOCs in indoor air are below MTCA Method B and C screening levels. The two constituents identified above were not detected in subslab vapor samples, indicating that they are not related to the former dry cleaner release. Consequently, the presence of these constituents in indoor air does not appear to be related to a vapor intrusion source.

Given the absence of the primary constituents of concern (i.e., PCE and TCE) in post-remediation indoor air samples, the current site conditions do not appear to be represent a significant vapor intrusion threat to future building occupants.

2.2.2 Environment

The Site is an urban setting with paved surfaces. Stormwater drainage is routed to the Alderwood Water District (AWD) system. There is no potential environmental exposure pathway to groundwater, so this potential exposure pathway is considered incomplete.

2.3 Cleanup Standards

2.3.1 Contaminants of Concern

Information obtained from previous reports indicates that PCE-containing dry cleaning products were used at the site during the period between 1992 and 2007. Beginning in 2007, PCE was replaced by a hydrocarbon-based dry cleaning solvent. Dry cleaning operations continued through May 2018 when the dry cleaner suite was vacated, associated equipment and appurtenances were removed, and interior surfaces of the former dry cleaning suite were cleaned and/or removed. Historic detections of PCE in soil and soil vapor observed during previous site assessment activities suggest that these impacts likely originated from incidental spills or releases during the period between 1992 and 2007. Representative incidental spills or releases that may have occurred include spills during transfer of spent solvents and releases of from the dry cleaning machine or waste storage containers.

Based on analytical laboratory data for soil samples collected from previous site investigations, PCE is the only contaminant that has been detected in soil at concentrations in excess of MTCA Method A regulatory cleanup levels. Subsurface soil containing PCE at concentrations in excess of the MTCA Method A cleanup level of 0.05 mg/kg was limited to soil samples collected from ground surface to one foot bgs in soil borings B-9, B-10, B-12, B-14, and B-15. These soil borings were located in the vicinity of the dry cleaning machine and near the spot cleaning table. The lateral extent of PCE impacted soil was adequately defined by borings B-25 through B-30 to the west, B-14 and B-23 to the south, B-17 through B-21 to the east, and B-6 through B-8 and B-22 to the north.

The PCE contaminant mass is confined to unsaturated soil immediately beneath the building slab and extends to a depth of less than three feet bgs, as demonstrated by soil samples collected at discrete depth intervals throughout the site (**Table 1**). Given the limited vertical extent of PCE impacted soil and relatively low concentrations detected in shallow soil, PCE has not migrated vertically and does not represent a significant threat to underlying groundwater. Furthermore, the historical groundwater monitoring and sampling results also demonstrate that PCE has not impacted groundwater, as PCE was not detected in any previous groundwater samples obtained from the site.

Based on concentration isocontours and historical soil boring locations, the estimated surface area of PCE impacted soil at concentrations above the MTCA Method A cleanup level was approximately 3,000 square feet. Since soil containing PCE at concentrations above the MTCA Method A cleanup level was generally limited primarily to the upper foot of soil beneath the

building slab, the estimated volume of PCE impacted soil was approximately 3,000 cubic feet or 111 cubic yards. It should be noted that the estimated extent of PCE impacted soil is based on measured soil concentrations collected prior to operation of the SSD system. As such, operation of the SSD system is expected to have resulted in further reductions in the concentration and lateral and vertical extent of PCE in soil. The estimated extent of PCE impacted soil that existed prior to operation of the SSD system is depicted on **Figure 4**.

Concentrations of PCE in soil vapor samples collected beneath the building slab (**Table 3**) support the interpolated geometry of the PCE soil plume, with the highest concentrations detected in soil vapor samples collected in the general vicinity and west of the former dry cleaning machine. Post-remediation confirmation subslab vapor samples collected in July 2018 indicate that the average concentration of PCE in subslab soil vapor is below MTCA Method B and Method C Screening levels. Similarly, PCE was not detected in either of the post-remediation confirmation indoor air samples collected in July 2018. This finding is notable as the indoor air samples were collected more than a week after the SSD system was turned off. Collectively, these findings support the conclusion that the residual concentrations of PCE that remain in the subsurface do not represent a significant vapor intrusion threat. Consequently, continued operation of the SSD system does not appear to be warranted to address the potential vapor intrusion condition.

2.3.2 Cleanup Levels

The cleanup standards for the Site, as defined in WAC 173-340-700, consist of establishing cleanup levels as well as the points of compliance at which those cleanup levels are to be attained. The cleanup standards must be protective of human health and the environment, and must comply with applicable laws and regulations.

Soil Cleanup Levels

The target soil cleanup levels for chlorinated VOCs present at the Site, are proposed to be the MTCA Method B cleanup levels for the respective COCs. The MTCA Method B cleanup levels consider potential direct-exposure to PCE and TCE in soil under both a residential and commercial/industrial land use scenario. A summary of the target soil cleanup levels is provided below:

- PCE – 476 mg/kg
- TCE – 12 mg/kg

Neither PCE nor TCE have historically been detected in any soil samples at concentrations in excess of the target soil cleanup levels. Therefore, the current site conditions meet the target soil cleanup levels and do not warrant additional mitigation.

Indoor Air Cleanup Levels

The target indoor air screening levels for chlorinated VOCs present at the Site, are proposed to be the MTCA Method B and Method C screening levels for the respective COCs. The Method C screening levels are generally considered to be more appropriate for commercial/industrial land uses, such as the subject property, while MTCA Method B levels would be applicable to a

residential or unrestricted land use scenario. A summary of the target indoor air screening levels for PCE and TCE is provided below:

- PCE – 9.62 µg/m^3 (Method B) / 40 µg/m^3 (Method C)
- TCE – 0.37 µg/m^3 (Method B) / 2.0 µg/m^3 (Method C)

The results of confirmation indoor air sampling performed in July 2018 indicates that neither PCE nor TCE were detected in indoor air at concentrations in excess of the laboratory reporting limits of 1.36 and 1.07 µg/m^3, respectively. Therefore, current site conditions meet the MTCA Method B/C target indoor air screening levels.

Groundwater Cleanup Levels

The target groundwater cleanup levels for chlorinated VOCs present at the Site, are proposed to be the MTCA Method A cleanup levels for the respective COCs. These are as follows:

- PCE – 5 µg/L
- TCE – 5 µg/L

Historical groundwater monitoring and sampling was performed in 2006. Neither PCE nor TCE were detected in groundwater at concentrations in excess of laboratory reporting limits (1 µg/L). Therefore, groundwater meets the numeric target cleanup level.

3.0 Terrestrial Ecological Evaluation

A completed terrestrial ecological evaluation (TEE) is provided in **Appendix B**. Since there is less than 1.5 contiguous acres of undeveloped land within 500 feet of the Site, the Site qualifies for the undeveloped land exemption under WAC 173-340-7491.

4.0 Cleanup Action Alternatives and Analysis

Remedial action alternatives were screened in ATCs FS based on the RAOs and data obtained during previous site assessments. These included: 1) source (soil) treatment technologies; and 2) source removal technologies. Both of these alternatives would be capable of reducing the concentration of PCE in soil. In addition, the "no action" alternative was evaluated. The "no action" alternative assumes that no remediation activities or monitoring would occur at the site, although this alternative would also consider the limits of the lateral and vertical extent of the contaminant mass in relation to potential human health risks and impacts to groundwater. The suitable remedial action technologies included:

- Natural attenuation (NA) with institutional controls and Restrictive Covenant.
- Soil vapor extraction (SVE).
- Soil removal (by excavation) and offsite disposal.

The remedial action technologies identified above were analyzed in the FS against the minimum screening criteria as outlined in Washington Administrative Code (WAC) 173-340-360(3)(f) which includes consideration of the following factors:

- Protectiveness.
- Permanence.
- Cost.
- Effectiveness over the long term.
- Management of short-term risks.
- Technical and administrative implementability.
- Consideration of public concerns.

In addition to meeting the threshold requirements outlined in WAC 173-340-360(2)(a), the selected remedial action technology is also required to be accomplished within a reasonable restoration time frame.

4.1 Cleanup Action Alternatives

A brief description of each remedial action technology evaluated in ATCs FS/DCA, compared with the minimum screening criteria listed above, is discussed in the following Sections.

4.1.1 Natural Attenuation with Institutional Controls and Restrictive Covenant

Natural attenuation (NA) relies on natural processes (biodegradation, dispersion, sorption, and volatilization) to achieve the RAO. Although this remedial action may require a longer period of time to achieve the RAO, this remedial action remains feasible due to the inaccessibility of impacted soil, limited risk to human health, limited concentrations of the contaminant mass. Furthermore, the results of soil sampling indicate that vertical migration of contamination is limited and groundwater has not been impacted. In order to further comply with MTCA threshold requirements, institutional controls and/or further analysis can be implemented to protect human health from any potential soil vapor intrusion from impacts remaining on property. It should be

noted that if this remedial action were to be implemented, WRI would be required to obtain a Restrictive Covenant from Ecology regarding Site impacts that remain above MTCA Method A cleanup levels.

4.1.2 Soil Vapor Extraction

SVE uses an induced vacuum to remove VOCs from the soil. The extracted vapor phase contaminants are either discharged to the atmosphere or treated using granulated activated carbon or thermal destruction. Utilizing SVE as a remediation alternative would require the installation of additional SVE wells and equipment to treat recovered vapor. The disproportionate carbon footprint and limited accessibility for expansion of the SVE well network make the effectiveness and reliability of SVE unknown over the long term. The time frame to achieve the RAO would likely be several years (estimated to be between two and five years). Furthermore, remediation by SVE has a disproportionate cost-effectiveness (i.e., the costs would not be proportionate to the benefits) as the remaining contaminant mass contains limited concentrations of contaminants of concern and is of limited volume.

4.1.3 Soil Removal (by Excavation) and Offsite Disposal

Soil removal by excavation and offsite disposal involves excavating the PCE impacted soil and transporting it offsite for disposal at a landfill or other suitable disposal facility. Although this remedial technology would be effective in meeting the RAO, remediation by soil removal and offsite disposal has a disproportionate cost-effectiveness as the remaining contaminant mass would require extensive engineering to access due to its location within an area occupied by an active commercial business.

4.2 Initial Screening of Alternatives

Based on the screening process, Natural Attenuation with Institutional Controls and Restrictive Covenant was selected as the best remedial alternative. Based on a comparative evaluation of the ability to attain the RAOs, analysis of the screening criteria, and through a disproportionate cost analysis, Alternative 1 (Natural Attenuation with Institutional Controls and Restrictive Covenant) is selected as the preferred technology. The degree of uncertainty regarding the reliability, combined with anticipated longer time frames to achieve the RAO and disproportionate cost effectiveness make the SVE and soil removal technologies unfavorable.

However, based on ATC's FS/DCA, Ecology's Opinion Letter, and a June 28, 2016 meeting between Ecology, WRI, and ATC, WRI selected soil vapor extraction through SSD as a viable cleanup alternative to best protect human health from the potential vapor intrusion migration pathway.

4.3 Detailed Evaluation of Alternatives

Detailed Evaluation of Remedial Alternatives (as presented in ATCs FS/DCS report):

	Alternative 1: **Natural Attenuation with Institutional Controls and Restrictive Covenant**	**Alternative 2:** **Soil Vapor Extraction**	**Alternative 3:** **Soil Removal (by Excavation) and Offsite Disposal**
Description	Since impacted soil is not in contact with groundwater it is kept capped with institutional controls and concentrations are allowed to degrade by natural processes.	Concentrations of PCE in impacted soil are reduced by extracting vapor phase petroleum hydrocarbons	Soil impacted with PCE is removed and then disposed at a permitted facility.
Area of Contamination (sq ft)	3,000	3,000	3,000
Volume of Soil Removal (cubic yards)	0	0	620
Overall Alternative Ranking (see Evaluation Criteria below)	**7.9**	**7.3**	**7.7**

5.0 Description of Selected Remedy

Based on ATC's FS/DCA, Ecology's Opinion Letter, and a June 28, 2016 meeting between Ecology, WRI, and ATC, WRI selected soil vapor extraction through SSD as a viable cleanup alternative to best protect human health from the potential vapor intrusion migration pathway and to remove contaminant mass.

The SSD system consisted of a single subslab extraction point (SP-1) and associated riser pipe constructed of schedule 40 polyvinyl chloride (PVC). The riser pipe was plumbed vertically from the subslab to a one horsepower regenerative blower mounted to the building roof. The vertical riser pipe was secured against a shared wall between the west-adjacent tenant space and the former Harbour Point Cleaners tenant spaces. Beneath the building slab, the extraction piping consisted of 4-inch diameter PVC piping and reduced to 2-inch diameter PVC piping at a height of approximately 3 feet above the building slab. The effluent air removed from the extraction point was discharged from the blower through a stack constructed of schedule 80 PVC. Operation of the SSD system commenced on January 23, 2017 and continued without interruption through June 30, 2018, a period of approximately 17 months.

5.1 Site Description

Based on previous investigations, a release of PCE associated with former facility operations impacted shallow soil below the slab of Building B in the locations shown on **Figures 2 and 4**. The PCE impacted area included shallow soil beneath the former dry cleaner and the adjacent tenant space to the west.

5.2 Description of the Cleanup Action

As was previously discussed, operation of the SSD system commenced on January 23, 2017 and continued without interruption through June 30, 2018. During the period of SSD system operation, effluent air samples were collected periodically, generally on a monthly basis, for analysis of VOCs via EPA Method TO-15. In addition, vacuum responses and field measurement of VOC concentrations were obtained from peripheral subslab monitoring points SV-1 through SV-5 in order to evaluate the extent of subslab vacuum influence and transient changes in VOC concentrations in the subslab samples. Verification monitoring of subslab vapor points SV-1 through SV-5 indicated that vacuum responses in excess of 0.1 inch of water column were maintained in all soil vapor monitoring probes during SSD system operation. The vacuum response induced during operation of the SSD system extended beyond the geographic area where PCE was present in soil at concentrations in excess of MTCA Method A Cleanup levels. During operation of the SSD system, a cumulative mass of approximately 0.72 pounds of VOCs was removed.

During the period between March 2017 and July 2018, indoor air samples were obtained over an 8-hour period on a quarterly basis from the interior of the former Harbour Point cleaner space and the adjacent, vacant tenant space to the west. Concurrent outdoor air samples were also collected during select quarterly indoor air sampling events in order to further evaluate the potential contribution of VOCs detected in ambient air to concentrations detected in indoor air.

The Harbour Point dry cleaners space was subsequently vacated in May 2018. Decommissioning of the dry cleaner space included removal of all above-ground features and appurtenances of the dry cleaning operation, including the dry cleaning machine, spot cleaning and pressing tables, containers of spot cleaning agents, dry cleaning solvents, waste filters, and spent solvent wastes. In addition, the interior floor of the former dry cleaning space was professionally cleaned and sections of stained wallboard were removed. The cleaning and decommissioning activities were completed on June 28, 2018 and the SSD system was subsequently shutdown.

Following the cleanup of the building interior, confirmation subslab, ambient, and indoor air sampling was conducted on July 6, 2018. The laboratory analytical results of the sampling activities performed on July 6, 2018 are intended to represent the current site conditions, absent the influence of the SSD system operation. Additional details regarding the post-remediation subslab vapor and indoor air sampling are provided in the following sections.

5.2.1 Post-Remediation Subslab Vapor Sampling

A summary of the results of the July 6, 2108 post-remediation confirmation sampling of subslab soil vapor probes indicated the following:

- PCE was detected in 1 of 5 subslab vapor probes (SV-1 at 1,160 µg/m^3) at a concentration in excess of the MTCA Method B Subslab Soil Gas Screening Level (321 µg/m^3). PCE was not detected in any subslab vapor samples at a concentration in excess of the MTCA Method C Subslab Soil Gas Screening Level (1,333 µg/m^3).
- TCE was detected in 1 of 5 subslab vapor probes (SV-3 at 16.1 µg/m^3) at a concentration in excess of the MTCA Method B Subslab Soil Gas Screening Level (12.3 µg/m^3). TCE was not detected in any subslab vapor samples at a concentration in excess of the MTCA Method C Subslab Soil Gas Screening Level (66.7 µg/m^3).
- The average concentrations of PCE and TCE detected in subslab soil vapor were 277.8 and 8.7 µg/m^3, respectively. The average concentrations of PCE and TCE in subslab soil vapor are below applicable Method B Subslab Soil Gas Screening Levels.
- No other VOCs were detected in any of the subslab vapor probes at concentrations in excess of chemical-specific MTCA Method B or Method C Subslab Soil Gas Screening Levels.
- As compared to the laboratory analytical results of subslab vapor samples obtained in January 2015, prior to initiating remedial operations, post-remediation concentrations of PCE in subslab soil vapor were reduced by more than 88%.

5.2.2 Post-Remediation Indoor Air Sampling

Post-remediation indoor air sampling performed on July 6, 2018 indicated the following:

- Neither PCE nor TCE were detected in indoor air samples at concentrations in excess of MTCA Method B indoor air screening levels. The laboratory reporting limit for TCE (1.07 µg/m^3) is slightly higher than the Method B indoor air screening level of 0.37 µg/m^3.
- With the exception of 1,4-dichlorobenzene in 1 of 2 indoor air samples, no VOCs were detected in indoor air at concentrations in excess of MTCA Method C Indoor Air Screening Levels. In indoor air sample IA-1, 1,4-dichlorobenzene was detected at a concentration

of 2.87 µg/m^3, slightly in excess of the Method C Indoor Air Screening Level of 2.27 µg/m^3. 1,4-dichlorobenzene was not detected in any confirmation subslab vapor samples. Therefore, the presence of this constituent in indoor air does not appear to be related to a vapor intrusion source.

5.2.3 Summary of Post-Remediation Conditions

As was previously discussed, pre- and post-remediation concentrations of PCE in soil are below MTCA Method B Cleanup Levels for direct contact with soil and do not represent a significant threat to human health under current or anticipated future exposure conditions. Prior to initiating remedial action, the vertical extent of PCE impacted soil was adequately defined and confirmed to be limited to a depth of less than 3 feet bgs. In addition, the results of groundwater sampling performed in 2006 indicated that groundwater was not impacted by PCE or related constituents at concentrations in excess of MTCA Method A cleanup levels. Operation of the SSD system has further reduced the mass and concentration of PCE that remains in the subsurface. In consideration of these factors and the results of the post-remediation subslab vapor and indoor air sampling, the current site conditions are not considered to represent a significant vapor intrusion threat under a commercial land use scenario. As such, it is ATC's opinion that continued operation of the SSD system is no longer warranted.

5.3 Cleanup Standards and Point of Compliance

Points of compliance are defined in WAC 173-340-200 as the locations where the cleanup levels established in accordance with WAC 173-340-720 through 173-340-760 will be attained to meet the requirements of MTCA. At that point in time when the cleanup levels have been reached and maintained at the defined points of compliance, the Site is no longer considered to represent a threat to human health or the environment and can be closed. The points of compliance for the proposed cleanup action for soil, groundwater and indoor air are as follows:

Soil - The proposed points of compliance for soil are defined in WAC 173-340-740(6)(b) as the former Harbor Point cleaners tenant space, and a portion of the adjacent tenant space to the west.

Groundwater **-** The proposed point of compliance for groundwater is defined groundwater beneath the Site as represented by historic groundwater monitoring wells MW-1 through MW-5.

Indoor Air - The proposed points of compliance for indoor air is defined as being throughout the former Harbor Point cleaners tenant space and the adjacent tenant space to the west.

5.4 Applicable, Relevant and Appropriate Requirements (ARARs)

Under WAC 173-340-350 and 173-340-710, applicable requirements include regulatory cleanup standards, standards of control, and other environmental requirements, criteria, or limitations established under state or federal law that specifically address a contaminant, remedial action,

location, or other circumstances at a site. MTCA defines relevant and appropriate requirements as:

> *"… those cleanup standards, standards of control, and other environmental requirements, criteria or limitations established under state and federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstance at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site. WAC 173-340-710 through 173-340-760 identifies several requirements the department shall consider relevant and appropriate for establishing cleanup standards. For other regulatory requirements, the following criteria shall be evaluated, where pertinent, to determine whether such requirements are relevant and appropriate for a particular hazardous substance, remedial action, or site: ..."*

The criteria used to make this determination are presented in WAC 173-340-710(4)(a)-(i).

Remedial actions conducted under MTCA must comply with the substantive requirements of the applicable or relevant and appropriate requirements (ARARs), but are exempt from their procedural requirements (WAC 173-340-710[9]). Specifically, this exemption applies to state and local permitting requirements under the Washington State Water Pollution Control Act, Solid Waste Management Act, Hazardous Waste Management Act, Clean Air Act, State Fisheries Code, and Shoreline Management Act.

Screening of ARARs

ARARs were screened in order to assess their applicability to the Site. The following list identifies the ARARs that may be applicable to the Site:

- MTCA (Chapter 70.105 of the Revised Code of Washington [RCW] 70.105)
- State Environmental Policy Act (Chapter 43.21C of the RCW 43.21C)
- The Clean Water Act (33 United States Code [USC] 1251 et seq.)
- The Fish and Wildlife Coordination Act
- Endangered Species Act (16 USC 1531 et seq.; Parts 17, 225, and 402 of Title 50 of the Code of Federal Regulations [50 CFR 17, 225, and 402])
- Native American Graves Protection and Repatriation Act (25 USC 3001 through 3013; 43 CFR 10) and Washington's Indian Graves and Records Law (RCW 27.44)
- Archaeological Resources Protection Act (16 USC 470 aa et seq.; 43 CFR 7)
- Washington Dangerous Waste Regulations (WAC 173-303)
- Solid Waste Management Act (RCW 70.95; WAC 173-304 and 173-351)
- Department of Transportation Hazardous Materials Regulations (49 CFR 100 through 185)
- Washington State Water Well Construction Act (RCW 18.104; WAC 173-160)
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC 9601 et seq. and 40 CFR 300)
- Water Quality Standards for Ground Waters of the State of Washington (RCW 90.48; WAC 173-200)
- Water Quality Standards for Surface Waters of the State of Washington (RCW 90.48 and 90.54; WAC 173-201A)

- Occupational Safety and Health Act and 29 CFR 1910
- Accreditation of Environmental Laboratories (WAC 173-50)
- City of Mukilteo and Snohomish County regulations, codes, and standards

5.5 Permanency of Solution

The preferred remedial options, once they have achieved the target cleanup levels, will have done so permanently. If the target cleanup goals cannot reasonably be achieved through the implementation of these actions within a reasonably acceptable time frame, site-specific MTCA Method B cleanup levels or other risk-based cleanup approaches and/or institutional controls may need to be considered to provide a permanent solution for appropriate areas of the Site.

The results of post-remediation subslab vapor sampling performed while the SSD system was not in operation, indicate that the current site conditions meet applicable MTCA Method B and/or Method C cleanup levels. The average concentrations of PCE and TCE in subslab soil vapor are below applicable Method B screening levels. Similarly, the indoor air sampling results demonstrate that the post-remediation concentrations of PCE and TCE in indoor air are below Method B cleanup levels even without operation of the SSD system. As such, the presence of residual PCE and TCE in subsurface soil and soil vapor does not appear to represent a continued threat of vapor intrusion. Therefore, continued operation of the SSD system is no longer required to mitigate the potential vapor intrusion condition.

6.0 Conclusions

Based on data presented in previous reports and summarized in this CAR report, numerous site investigation activities and successful remedial activities have been performed at the site. Historical concentrations of PCE in soil are below MTCA Method B direct exposure cleanup levels and extend to less than 3 feet below grade. In addition, historical groundwater monitoring and sampling demonstrate that groundwater has not been impacted by dry cleaning chemicals at concentrations in excess of MTCA Method A cleanup levels. Operation of the SSD remediation system resulted in reductions in both the mass and concentrations of PCE that may remain in the subsurface. The results of the post-remediation subslab and indoor air sampling demonstrate that the current site conditions meet MTCA Method B and/or Method C screening levels for both subslab soil vapor and indoor air. In consideration of the factors presented above, there are no other potentially complete exposure pathways at the site that warrant further consideration or mitigation.

ATC requests Ecology review this CAR report for concurrence that Site Characterization and Cleanup are complete and that an Opinion of NFA is warranted.

7.0 References

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ATC, Sub-Slab Depressurization Pilot Test Report, Harbour Point Cleaners at Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, WA, December 7, 2016.

ATC, Sub-Slab Depressurization System Report - January 2017 through December 2017, Harbour Point Cleaners, Suite B6, Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, WA, February 26, 2018.

TABLES

Table 1
Summary of Soil Analytical Results - Chlorinated Volatile Organic Compounds
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington

Boring ID	Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in mg/kg					
				PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride
MTCA-Method A Cleanup Levels for Unrestricted Land Uses				0.05	0.03	No Data	No Data	No Data	No Data
MTCA Method B non-carcinogen Standard Formula Value				476	12	160	1,600	4,000	240
B-1*	B1-0-1'	0-1	6/12/2006	**1.0**	<0.010	<0.052	<0.052	<0.010	<0.010
B-2*	B2-0-1'	0-1	6/12/2006	**0.30**	0.0093	<0.040	<0.040	<0.0079	<0.0079
	B2-1-2'	1-2	6/12/2006	**0.30**	0.017	<0.042	<0.042	<0.0084	<0.0084
	B2-2.5-2.75'	2.5-2.75	6/12/2006	**0.082**	0.0059	<0.027	<0.027	<0.0055	<0.0055
B-6*	B6-6.5-7'	6.5-7	8/22/2006	<0.027	<0.017	<0.044	<0.044	<0.017	<0.017
	B6-8.5-9'	8.5-9	8/22/2006	<0.028	<0.018	<0.045	<0.045	<0.018	<0.018
B-1	B-1(10-12)	10 - 12	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
	B-1(15-16)	15 - 16	3/5/2013	<0.0038	<0.0038	<0.0038	--	--	<0.0038
B-2	B-2(2.5-5)	2.5 - 5	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
	B-2(7.5-10)	7.5 - 10	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
B-3	B-3(3-5)	3 - 5	3/5/2013	0.00063	<0.0037	<0.0037	--	--	<0.0037
	B-3(6 - 6.5)	6 - 6.5	3/5/2013	<0.0040	<0.0040	<0.0040	--	--	<0.0040
B-4	B-4(3-5)	3 - 5	3/5/2013	<0.0038	<0.0038	<0.0038	--	--	<0.0038
	B-4(9-11)	6 - 9	3/5/2013	<0.0038	<0.0038	<0.0038	--	--	<0.0038
B-5	B-5(0-3)	0 - 3	3/5/2013	<0.0036	<0.0036	<0.0036	--	--	<0.0036
	B-5(6-9)	1 - 2	3/5/2013	<0.0037	<0.0037	<0.0037	--	--	<0.0037
B-6	B-6-0-1	0 - 1	3/12/2014	<0.0189	<0.0189	<0.0189	<0.0189	<0.0472	<0.00189
	B-6-1-2	1 - 2	3/12/2014	<0.0199	<0.0199	<0.0199	<0.0199	<0.0497	<0.00199
	B-6-3-4	3 - 4	3/12/2014	<0.0198	<0.198	<0.198	<0.198	<0.0496	<0.00198
B-7	B-7-0-1	0 - 1	3/12/2014	<0.0414	<0.0414	<0.0414	<0.0414	<0.104	<0.00414
B-8	B-8-0-1	0 - 1	3/12/2014	<0.0227	<0.0227	<0.0227	<0.0227	<0.0567	<0.00227
	B-8-1-2	1 - 2	3/12/2014	<0.0177	<0.0177	<0.0177	<0.0177	<0.0442	<0.00177
	B-8-3-4	3 - 4	3/12/2014	<0.0210	<0.0210	<0.0210	<0.0210	<0.0526	<0.00210
B-9	B-9-0-1	0 - 1	3/12/2014	**0.111**	<0.0219	<0.0219	<0.0219	<0.0549	<0.00219
	B-9-1-2	1 - 2	3/12/2014	<0.0240	<0.0240	<0.0240	<0.0240	<0.0601	<0.00240
B-10	B-10-0-1	0 - 1	3/12/2014	**0.208**	<0.0299	<0.0299	<0.0299	<0.0747	<0.00209
	B-10-1-2	1 - 2	3/12/2014	<0.0205	<0.0205	<0.0205	<0.0205	<00512	<0.00205
	B-10-3-4	3 - 4	3/12/2014	<0.0197	<0.0197	<0.0197	<0.0197	<0.0493	<0.00197
B-11	B-11-0-1	0 - 1	3/12/2014	0.0337	<0.0185	<0.0185	<0.0185	<0.0462	<0.00185
	B-11-1-2	1 - 2	3/12/2014	<0.0195	<0.0195	<0.0195	<0.0195	<0.0488	<0.00195
	B-11-3-4	3 - 4	3/12/2014	<0.0199	<0.0199	<0.0199	<0.0199	<0.0497	<0.00199
B-12	B-6-0-1	0 - 1	3/12/2014	**0.156**	<0.0211	<0.0211	<0.0211	<0.0527	<0.00211
	B-6-1-2	1 - 2	3/12/2014	0.0467	<0.0220	<0.0220	<0.0220	<0.0551	<0.00220
	B-6-3-4	3 - 4	3/12/2014	<0.0205	<0.0205	<0.0205	<0.0205	<00513	<0.00205
B-13	B-13-1	0 - 1	1/29/2015	0.0348	<0.0192	<0.0192	<0.0192	<0.0481	<0.00192
	B-13-2	1 - 2	1/29/2015	<0.0216	<0.0216	<0.0216	<0.0216	<0.0539	<0.0216
	B-13-4	3 - 4	1/29/2015	<0.0219	<0.0219	<0.219	<0.0219	<0.0547	<0.0219
B-14	B-14-1	0 - 1	1/29/2015	**0.0696**	<0.0182	<0.0182	<0.0182	<0.0454	<0.0182
	B-14-4	3 - 4	1/29/2015	<0.0215	<0.0215	<0.0215	<0.0215	<0.0539	<0.0215
B-15	B-15-1	0 - 1	1/29/2015	**0.315**	<0.0193	<0.0193	<0.0193	<0.0482	<0.0193
	B-15-2	1 - 2	1/29/2015	0.0260	<0.0216	<0.0216	<0.0216	<0.0541	<0.0216
	B-15-4	3 - 4	1/29/2015	<0.0199	<0.0199	<0.0199	<0.0199	<0.0497	<0.0199
B-16	B-16-1	0 - 1	1/29/2015	0.0243	<0.0194	<0.0194	<0.0194	<0.0567	<0.0194
	B-16-2	1 - 2	1/29/2015	<0.0205	<0.0205	<0.0205	<0.0205	<0.0513	<0.0205
	B-16-4	3 - 4	1/29/2015	<0.0220	<0.0220	<0.0220	<0.0220	<0.0549	<0.0220

Table 1
Summary of Soil Analytical Results - Chlorinated Volatile Organic Compounds
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington

Boring ID	Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in mg/kg					
				PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride
MTCA-Method A Cleanup Levels for Unrestricted Land Uses				0.05	0.03	No Data	No Data	No Data	No Data
MTCA Method B non-carcinogen Standard Formula Value				476	12	160	1,600	4,000	240
B-17	B-17-1	0 - 1	1/29/2015	<0.0191	<0.0191	<0.0191	<0.0191	<0.0477	<0.0191
	B-17-2	1 - 2	1/29/2015	<0.0209	<0.0209	<0.0209	<0.0209	<0.0522	<0.0209
	B-17-4	3 - 4	1/29/2015	<0.0142	<0.0142	<0.0142	<0.0142	<0.0355	<0.0142
B-18	B-18-1	0 - 1	1/29/2015	<0.0203	<0.0203	<0.0203	<0.0203	<0.0508	<0.0203
	B-18-4	3 - 4	1/29/2015	<0.0214	<0.0214	<0.0214	<0.0214	<0.0534	<0.0214
B-19	B-19-1	0 - 1	1/29/2015	<0.0231	<0.0231	<0.0231	<0.0231	<0.0578	<0.0231
	B-19-4	3 - 4	1/29/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.0545	<0.0218
B-20	B-20-1	0 - 1	1/29/2015	<0.0198	<0.0198	<0.0198	<0.0198	<0.0494	<0.0198
	B-20-2	1 - 2	1/29/2015	<0.0213	<0.0213	<0.0213	<0.0213	<0.0532	<0.0213
	B-20-4	3 - 4	1/29/2015	<0.0200	<0.0200	<0.0200	<0.0200	<0.0499	<0.0200
B-21	B-21-1	0 - 1	1/29/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.0545	<0.0218
	B-21-2	1 - 2	1/29/2015	<0.0210	<0.0210	<0.0210	<0.0210	<0.0524	<0.0210
	B-21-4	3 - 4	1/29/2015	<0.0203	<0.0203	<0.0203	<0.0203	<0.0507	<0.0203
B-22	B-22-1	0 - 1	1/29/2015	<0.0283	<0.0283	<0.0283	<0.0283	<0.0708	<0.0283
	B-22-2	1 - 2	1/29/2015	<0.0210	<0.0210	<0.0210	<0.0210	<0.0525	<0.0210
	B-22-4	3 - 4	1/29/2015	<0.0215	<0.0215	<0.0215	<0.0215	<0.0538	<0.0215
B-23	B-23-1	0 - 1	1/29/2015	<0.0237	<0.0237	<0.0237	<0.0237	<0.0592	<0.0237
	B-23-2	1 - 2	1/29/2015	<0.0196	<0.0196	<0.0196	<0.0196	<0.0490	<0.0196
	B-23-4	3 - 4	1/29/2015	<0.0216	<0.0216	<0.0216	<0.0216	<0.0539	<0.0216
B-24	B-24-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-24-4	3 - 4	5/12/2015	<0.0211	<0.0211	<0.0211	<0.0211	<0.527	<0.00211
B-25	B-25-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-25-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-26	B-26-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-26-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-27	B-27-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-27-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-28	B-28-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-28-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-29	B-29-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-29-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-30	B-30-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-30-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
B-31	B-30-1	0 - 1	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218
	B-30-4	3 - 4	5/12/2015	<0.0218	<0.0218	<0.0218	<0.0218	<0.546	<0.00218

Notes:
mg/kg = millgram per kilogram
PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)
TCE = Trichloroethene (Trichloroethylene)
cis-DCE = cis-1,2-Dichloroethene (cis-1,2-Dichloroethylene)
trans-DCE = trans-1,2-Dichloroethene (trans-1,2-Dichloroethylene)
1,1-DCE = 1,1-Dichloroethene (1,1-Dichloroethylene)
MTCA - Washington State Department of Ecology Model Toxics Control Act
Bold denotes concentration at or above regulatory cleanup level
* = Sample collected during 2006 BEA investigation
1 = Analytical results by gas chromatography and mass spectrometry by EPA Method 8260
All analytical results reported in milligrams per kilogram (mg/kg) equivalent to parts per million (ppm)
A complete list of VOC data is provided in Appendix B.

Table 2
Summary of Groundwater Analytical Results
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington

Well ID	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in µg/L										
		PCE	TCE	Chloroform	Chloromethane	1,1-DCA	EDC	VC	Naphthalene	Toluene	Ethylbenzene	Total Xylenes
MW-1	6/13/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25	7.3	5.0	33
	7/28/2006	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
	8/23/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
MW-2	7/28/2006	<1.0	<1.0	**2.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
	8/23/2006	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
MW-3	7/28/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
	8/23/2006	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
MW-4	8/23/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
MW-5	8/23/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
MTCA-Method A/B* Cleanup Levels		**5**	**5**	**1.41***	**No Data**	**7.68***	**5**	**0.2**	**160**	**1000**	**700**	**1000**

Notes:
µg/L = micrograms per liter
PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)
TCE = Trichloroethene
1,1-DCA = 1,1-Dichloroethane
VC = Vinyl chloride
EDC = Ethylene dichloride, also DCE, also 1,2-dichloroethane
1 = Analytical results by EPA Method 8260
All analytical results reported in micrograms per liter (µg/L) equivalent to parts per billion (ppb)
Bold denotes concentration at or above MTCA Method A/B Cleanup Level
MTCA - Washington State Department of Ecology Model Toxics Control Act
* = MTCA Method B Cleanup Level

Table 3
Summary of Soil Vapor Sample Analytical Results - Chlorinated Volatile Organic Compounds
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington

Sample ID	Sample Depth Interval (feet below ground surface)	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in ug/m^3						Leak Detection Compounds	
			PCE	TCE	cis-DCE	trans-DCE	1,1-DCE	Vinyl Chloride	Helium in ppmv[2]	% Oxygen[3]
VE-1	0.5 (sub-slab)	1/29/2015	**10,000**	**66.10**	<0.793	<0.793	<0.793	<0.511	<254	7.41
VE-2	0.5 (sub-slab)	1/29/2015	**4,740**	8.42	<0.793	<0.793	<0.793	<0.511	57,600	8.00
VE-3	0.5 (sub-slab)	1/29/2015	**3,230**	5.12	<0.793	<0.793	<0.793	<0.511	<246	7.68
Slab-1	0.5 (sub-slab)	7/3/2015	**1,950**	7.73	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-2	0.5 (sub-slab)	7/3/2015	**632**	1.21	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-3	0.5 (sub-slab)	7/3/2015	**523**	0.907	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-4	0.5 (sub-slab)	7/3/2015	60.2	0.288	<0.0793	<0.0238	<0.0357	<0.217	ND	--
Slab-5	0.5 (sub-slab)	7/3/2015	48.1	<0.0914	<0.0793	<0.0238	<0.0357	<0.217	ND	--
SV-1	2" below slab	7/6/2018	**1,160**	8.48	<0.793	<0.793	<0.802	<0.511	ND	--
SV-2	2" below slab	7/6/2018	108	<1.07	<0.793	<0.793	<0.802	<0.511	ND	--
SV-3	2" below slab	7/6/2018	100	**16.1**	<0.793	<0.793	<0.802	<0.511	ND	--
SV-4	2" below slab	7/6/2018	17.1	1.65	<0.793	<0.793	<0.802	<0.511	ND	--
SV-5	2" below slab	7/6/2018	4.04	<1.07	<0.793	<0.793	<0.802	<0.511	ND	--
2015 MTCA Method B Subslab Screening Level			**321**	**12.3**	**NA**	**NA**	**3,050**	**9.3**	**NA**	**NA**
2015 MTCA Method C Subslab Screening Level			**1,330**	**66.7**	**NA**	**NA**	**6,670**	**93.3**	**NA**	**NA**

Notes:

ug/m^3=micrograms per cubic meter

ppmv = parts per million by volume

PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)

TCE = Trichloroethene (Trichloroethylene)

cis-DCE = cis-1,2-Dichloroethene (cis-1,2-Dichloroethylene)

trans-DCE = trans-1,2-Dichloroethene (trans-1,2-Dichloroethylene)

1,1-DCE = 1,1-Dichloroethene (1,1-Dichloroethylene)

MTCA - Washington State Department of Ecology Model Toxics Control Act

Bold denotes concentration at or above MTCA Method B Subslab Soil Gas Screening Level

1 = Analytical results by EPA Method TO-15

2 = Analytical results by EPA Method 3C

3= Analytical resutls by gas chromatography/thermal conductivity detector

All analytical results reported in micrograms per cubic meter (µg/m^3)

A complete list of VOC data is provided in Appendix B.

NA= No applicable data

SSDS was shutdown on June 28, 2018, and sampling performed on July 6, 2018 was while the SSDS was NOT operating

Table 4
Summary of Indoor Air Analytical Results - Select Chlorinated Volatile Organic Compounds
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington

Sample Location	Sample ID	Fill Time	Sample Date	Select Chlorinated Volatile Organic Compounds (cVOCs)[1] in ug/m^3			
				PCE	TCE	1,1-DCE	Vinyl Chloride
Location IA-1 in Harbour Point Cleaners tenant space	Vapor-1-Cleaner	8-Hour	5/1/2015	2.24	**4.60**	<0.0357	<0.217
	IA-01	8-Hour	7/2/2015	5.46	**7.60**	<0.0357	<0.217
	IA-1-031317	8-Hour	3/13/2017	2.20	**5.54**	<0.793	<0.511
	IA1-062917	8-Hour	6/29/2017	<2.03	**10.9**	<0.793	<0.511
	IA-1-3Q17	8-Hour	9/28/2017	**22.7**	**2.20**	<1.59	<1.02
	IA-1	8-Hour	12/28/2017	2.64	**6.22**	<0.793	<0.511
	IA-1	8-Hour	3/13/2018	<1.36	**6.07**	<0.793	<0.511
	IA1-070618	8-Hour	7/6/2018	<1.36	<1.07	<0.793	<0.511
Location IA-2 in tenant space B5	Vapor-2-Salon	8-Hour	5/1/2015	**12.50**	**6.76**	<0.0357	<0.217
	IA-02	8-Hour	7/2/2015	**10.9**	**4.67**	<0.0357	<0.217
	IA-2-031317	8-Hour	3/13/2017	<6.46	<3.41	<2.52	<1.62
	IA2-062917	8-Hour	6/29/2017	<2.03	**1.80**	<0.793	<0.511
	IA-2-3Q17	8-Hour	9/28/2017	<2.72	**2.52**	<1.59	<1.02
	IA-2	8-Hour	12/28/2017	<1.36	<1.07	<0.793	<0.511
	IA-2	8-Hour	3/13/2018	<1.36	**1.11**	<0.793	<0.511
	IA2-070618	8-Hour	7/6/2018	<1.36	<1.07	<0.793	<0.511
2015 MTCA Method B Indoor Air Screening Level				**9.62**	**0.37**	**91.43**	**0.28**
2015 MTCA Method C Indoor Air Screening Level				**40**	**2.0**	**200**	**2.8**

Notes:

ug/m^3=micrograms per cubic meter

PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)

TCE = Trichloroethene (Trichloroethylene)

1,1-DCE = 1,1-Dichloroethene (1,1-Dichloroethylene)

MTCA - Washington State Department of Ecology Model Toxics Control Act

Bold denotes concentration at or above 2015 MTCA Method B Indoor Air Screening Level, but below Method C Indoor Air Screening Level

Bold denotes concentration at or above 2015 MTCA Method B and C Indoor Air Screening Levels

[1] = Analytical results by EPA Method TO-15

[2] = Analytical results by EPA Method 3C

[3] = Analytical resutls by gas chromatography/thermal conductivity detector

All analytical results reported in micrograms per cubic meter (µg/m^3)

A complete summary of laboratory analytical results for the current sampling event is provided in Appendix C.

SSDS was shutdown on June 28, 2018, and sampling performed on July 6, 2018 was while the SSDS was NOT operating

Table 5
Summary of Monthly Subslab Monitoring Results
Harbour Point Cleaners
13619 Mukileteo Speedway
Lynnwood, Washington

Monitoring Date	Applied Vacuum at Extraction Point SP-1 (- in. WC)	Subslab Monitoring Points									
		SV-1		SV-2		SV-3		SV-4		SV-5	
		Vacuum Response (- in.WC)	PID Measurement (ppmv)	Vacuum Response (- in.WC)	PID Measurement (ppmv)	Vacuum Response (- in.WC)	PID Measurement (ppmv)	Vacuum Response (- in.WC)	PID Measurement (ppmv)	Vacuum Response (- in.WC)	PID Measurement (ppmv)
3/13/2017	22	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
5/31/2017	24	0.10	1.7	0.030	0.5	3.0	0.2	2.0	0.2	0.627	0.2
6/29/2017	22	0.10	NM	1.127	NM	>5.00	NM	2.3	NM	0.415	NM
7/31/2017	23	0.372	0.0	0.351	0.0	2.1	0.7	0.3	0.0	0.320	0.0
8/25/2017	22	0.219	0.0	0.301	0.0	3.0	0.0	2.09	0.0	0.457	0.0
9/29/2017	24	>0.25	0.3	>0.25	0.1	>0.25	0.2	>0.25	0.1	>0.25	0.5
10/27/2017	23	0.207	0.3	0.192	0.3	>5.00	0.3	1.738	0.5	0.361	0.5
11/27/2017	0.80[a]	0.20	0.4	0.20	0.4	3.0	0.7	1.50	0.5	0.40	0.6
12/28/2017	22	0.10	0.0	0.20	0.0	2.6	0.0	1.20	0.0	0.20	0.0
1/18/2018	22	0.20	0.0	0.20	0.0	3.1	0.0	1.50	0.0	0.30	0.0
2/15/2018	22	0.20	0.0	0.20	0.0	3.0	0.0	1.40	0.0	0.40	0.0
3/13/2018	22	0.20	0.0	0.20	0.0	3.1	0.0	1.60	0.0	0.20	0.0
5/31/2018*	21	0.10	0.3	0.10	0.2	3.15	0.2	1.85	0.2	0.2	0.3

Notes:
Subslab depressurization system operation commenced on January 23, 2017
Subslab monitoring points SV-1 through SV-5 installed on May 31, 2017
* Subslab monitoring points SV-1 through SV-5 data were collected immediately prior to shutting down the SSDS
- in. WC = negative inches of water column
NM = Not Measured
Vacuum readings obtained using magnehelic gauges (Dwyer) and digital micro manometer (Infiltec Model DM1)
PID measurements obtained using a Mini RAE 3000 PID calibrated to 100 ppm isobutylene
[a] = Measurement not recorded at the correct location, value does not acccurately represent vacuum at extraction point SP-1

Table 6
Summary of SSDS Effluent Sampling Results
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington
All Concentrations Expressed in micrograms per cubic meter (ug/m^3)

Sample Date	Methylene Chloride	CFC-12	Acetone	Benzene	1,4-Dichlorobenzene	(MEK) 2-Butanone	CFC-11	1,3-Dichlorobenzene	Propylene	PCE	m,p-Xylene	Chloroform	Chloromethane	Cyclohexane	Ethanol	TCE	Toluene	Tetrahydrofuran	Isopropyl Alcohol	Ethylbenzene	1,3,5-Trimethylbenzene	4-Ethyltoluene	Styrene	o-Xylene	Naphthalene	1,2,4-Trimethylbenzene	Heptane	Hexane	Methyl Methacrylate	Sum of Detected VOCs	Sum of Chlorinated VOCs
Method B Screening Level[1]	**8,333**	**1,523**	**4.73E+05**	**10.7**	**7.58**	**7.63E+04**	**1.07E+04**	**NE**	**NE**	**321**	**1,520**	**3.62**	**1,370**	**NE**	**NE**	**12.3**	**7.63E+04**	**NE**	**NE**	**1.52E+04**	**NE**	**NE**	**1.52E+04**	**1,523**	**2.45**	**106.7**	**NE**	**1.06E+04**	**1.06E+04**	**--**	**--**
Method C Screening Level[2]	**2.0E+04**	**3,333**	**1.00E+06**	**107**	**75.8**	**1.67E+05**	**2.33E+04**	**NE**	**NE**	**1,333**	**3,333**	**36.2**	**3,000**	**NE**	**NE**	**66.7**	**1.67E+05**	**NE**	**NE**	**3.33E+04**	**NE**	**NE**	**3.33E+04**	**3,333**	**24.5**	**233**	**NE**	**2.33E+04**	**2.33E+04**	**--**	**--**
3/13/2017	82.4	<1.48	NA	NA	4.19	NA	1.83	NA	NA	4.57	NA	2.43	<1.03	NA	NA	1.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	96.64	96.64
5/31/2017	<5.21	12.5	11.8	<0.639	**14.6**	<1.47	7.25	14.9	6.91	<2.03	<0.868	1.49	<1.03	<0.688	NA	<1.07	<0.754	<1.47	3.57	<1.30	<1.47	<1.47	<1.28	<0.868	<1.57	<1.47	<2.01	<0.705	<1.23	73.02	50.74
6/29/2017	<5.21	14.0	12.7	<0.639	5.33	3.86	6.52	<1.80	1.91	4.01	5.33	1.14	<1.03	<0.688	NA	2.51	3.65	<1.47	<2.46	3.13	2.83	2.45	2.27	2.09	2.06	1.96	<2.01	1.18	1.26	80.19	33.51
7/31/2017	35.6	17.8	18.5	<0.639	**11.90**	3.25	9.85	<1.80	10.70	4.13	2.25	**7.98**	<1.03	<0.688	NA	2.04	<0.754	<1.47	<2.46	<1.30	1.95	<1.47	<1.28	1.01	1.79	<1.47	<2.01	<0.705	<1.23	128.75	89.30
8/25/2017	8.79	11.5	22.0	<0.639	5.23	<1.47	5.59	<1.80	1.69	2.52	<0.868	1.98	<1.03	<0.688	NA	1.15	1.47	<1.47	9.59	<1.30	<1.47	<1.47	<1.28	<0.868	**3.54**	<1.47	<2.01	<0.705	<1.23	75.05	36.76
9/29/2017	<0.694	14.4	12.6	<0.639	3.73	<3.69	7.70	<1.20	<0.689	4.78	<1.73	**10.0**	0.581	<0.689	36.1	3.15	2.43	<0.590	<3.07	<0.867	<0.982	<0.982	<0.851	<0.867	<3.30	<0.982	<0.818	<0.705	<0.819	95.47	44.34
10/27/2017	<0.694	11.2	15.4	0.816	**20.0**	<3.69	9.66	<1.20	<0.689	2.03	<1.73	1.25	0.838	<0.689	171	4.02	4.29	<0.590	31.2	<0.867	<0.982	<0.982	<0.851	<0.867	<3.30	<0.982	<0.818	<0.705	<0.819	271.70	49.00
11/27/2017	<0.694	10.5	9.94	<0.639	1.28	<3.69	3.77	<1.20	2.63	<1.36	2.41	**6.08**	0.738	<0.689	118	2.19	2.77	<0.590	<3.07	<0.867	<0.982	<0.982	<0.851	0.916	<3.30	1.09	<0.818	<0.705	<0.819	162.31	24.56
12/28/2017	<0.694	6.31	12.0	0.646	6.23	<3.69	2.64	<1.20	1.06	<1.36	<1.73	<0.973	0.980	<0.689	129	<1.07	1.47	<0.590	<3.07	<0.867	<0.982	<0.982	<0.851	<0.867	<3.30	<0.982	<0.818	<0.705	<0.819	160.34	16.16
1/18/2018	1.52	10.9	14.4	0.899	**13.8**	<3.69	3.38	<1.20	<0.689	<1.36	2.88	<0.973	0.944	<0.689	70.4	2.42	3.56	<0.590	29.8	<0.867	<0.982	1.83	<0.851	1.14	<3.30	2.18	<0.818	<0.705	<0.819	160.05	32.96
2/15/2018	0.854	2.00	38.0	1.08	**10.5**	4.64	4.49	<1.20	<0.689	1.42	2.43	<0.973	1.09	0.779	168	2.00	6.77	2.87	4.37	<0.867	<0.982	<0.982	<0.851	0.903	<3.30	1.10	0.977	1.390	<0.819	255.66	22.35
3/13/2018	<0.694	6.20	24.7	1.35	2.22	<3.69	3.85	<1.20	2.86	<1.36	6.24	<0.973	0.917	1.97	171	3.99	10.9	<0.590	4.96	1.67	<0.982	<0.982	<0.851	2.15	<3.30	2.00	1.45	1.45	<0.819	249.88	17.18
4/12/2018	<0.694	9.33	63.5	0.905	3.11	<3.69	4.34	<1.20	<0.689	<1.36	13.7	2.74	0.988	0.948	120	3.44	15.9	1.40	11.5	3.29	1.43	4.51	2.69	4.76	<3.30	5.16	1.38	1.21	1.58	277.81	23.95

Notes:
Only VOCs that were detected in at least one SSDS effluent sample are presented in this summary. VOCs not specifically included in this summary were not present at concentrations in excess of laboratory reporting limits
Sum of detected VOCs represents the cumulative concentration of all detected VOCs, expressed in ug/m^3.
SSDS effluent samples analyzed for VOCs via EPA Method TO-15
< indicates that analyte was not detected at the specified laboratory reporting limit
PCE = Tetrachloroethene (Tetrachloroethylene, perchloroethylene)
TCE = Trichloroethene (Trichloroethylene)
CFC-11 = Trichlorofluoromethane
CFC-12 = Dichlorodifluoromethane
MEK = 2-Butanone
NA = Not Analyzed or otherwise included in laboratory analytical report
NE = Not Established under MTCA
[1] = MTCA 2015 Method B Subslab Soil Gas Screening Level
[1] = MTCA 2015 Method C Subslab Soil Gas Screening Level
Bold denotes concentration at or above 2015 MTCA Method B Subslab Soil Gas Screening Level, but below Method C Subslab Soil Gas Screening Level
Bold denotes concentration at or above 2015 MTCA Method B and C Subslab Soil Gas Screening Level

Table 7
Summary of Subslab Depressurization System VOC Removal Rates
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Lynnwood, Washington

Sample Date	Total System Run Time (hours)	Applied Vacuum at Extraction Point SP-1 (- in. WC)	SSDS Flow Rate (scfm)	Effluent PID (ppmv)	Total VOC Concentration[1] (ug/m^3)	VOC Recovery Rate (lbs/day)	VOC Recovered for Period (lbs)	Cumulative VOC Recovered (lbs)
3/13/2017	1,164	22	170	0.6	96.64	1.48E-03	0.0716	0.072
5/31/2017	3,035	24	82	0.4	73.02	9.61E-04	0.0749	0.147
6/29/2017	3,707	22	75	42.7	80.19	5.41E-04	0.0151	0.162
7/31/2017	4,475	23	76	4.6	128.75	7.09E-04	0.0227	0.184
8/25/2017	5,075	22	76	0.2	75.05	6.97E-04	0.0174	0.202
9/29/2017	5,915	24	84	0.5	95.47	6.13E-04	0.0215	0.223
10/27/2017	6,575	24	89	0.3	271.70	1.43E-03	0.0392	0.263
11/27/2017	7,295	24	95	0.2	162.31	1.79E-03	0.0538	0.316
12/28/2017	8,039	24	104	0.1	160.34	1.44E-03	0.0447	0.361
1/18/2018	8,543	22	85	0.0	160.05	1.36E-03	0.0286	0.390
2/15/2018	9,215	22	75	0.0	255.66	1.49E-03	0.0419	0.432
3/13/2018	9,959	22	79	0.0	249.88	1.75E-03	0.0543	0.486
4/12/2018	10,703	22	79	0.7	277.81	1.87E-03	0.0581	0.544
5/31/2018[a]	12,143	21	79	0.2	549.62	2.94E-03	0.1763	0.720

Notes:

SSDS System operations commenced on January 23, 2017

[1] = Total VOC concentration based on the sum of detected VOCs based on TO-15 analysis, as presented in Table 3.

- in. WC = negative inches of water column

scfm = cubic feet per minute, adjusted for applied vacuum

ppmv = parts per million by volume

Flow rate as calculated from anemometer probe measurements

PID = Photoionization Detector (Mini RAE 3000 PID calibrated to 100 ppm isobutylene) as measured within the effluent stack.

[a] = Sample obtained immediately prior to SSDS System shutdown.

Total Daily Emissions calculated using the following equation:

$R_d = (V \times C \times F1 \times 1/F2 \times 1/F3)$

R_d = VOC Mass Recovery Rate (lb/day)

V = Flow rate as standard cubic feet per minute

Flow rate calculated as average of current and preceding monitoring events.

C = VOC concentration (ug/m^3) calculated as the average of current and preceding sampling events

F1 = minutes per day (24 hours/day x 60 minutes/hour = 1,440 minutes/day)

F2 = Conversion factor of 35.315 cubic feet per cubic meter

F3 = 4.5359E+8 micrograms per pound

VOC Recovery for Period calculated using the following equation:

$R_p = R_d \times OD$

OD = Operating Duration (days)

R_p = VOC mass Recovery for Period (pounds)

Table 8
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Indoor and Outdoor Air and SSDS Effluent Sampling Results
Samples obtained on December 28, 2017
Concentrations in micrograms per cubic meter (ug/m^3)

Analyte	CAS #	MTCA Method B Screening Level[1]	MTCA Method C Screening Level[2]	OA-1	OA-2	OA-3	IA-1	IA-2
Acetone	67-64-1	14,171	31,000	4.07	3.69	4.09	16.7	11.9
Allyl Chloride	107-05-1			ND	ND	ND	ND	ND
Benzene	71-43-2	13.7	30	0.700	0.677	0.697	0.753	1.13
Benzyl Chloride	100-44-7			ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4			ND	ND	ND	ND	ND
Bromoform	75-25-2			ND	ND	ND	ND	ND
Bromomethane	74-83-9			ND	ND	ND	ND	ND
1,3-Butadiene	106-99-0			ND	ND	ND	ND	ND
Carbon Disulfide	75-15-0			ND	ND	ND	ND	ND
Carbon Tetrachloride	56-23-5	0.417	4.17	**4.61**	ND	ND	ND	ND
Chlorobenzene	108-90-7			ND	ND	ND	ND	ND
Chloroethane	75-00-3			ND	ND	ND	ND	ND
Chloroform	67-66-3			ND	ND	ND	ND	ND
Chloromethane	74-87-3	41.1	90	1.36	1.23	1.33	1.42	1.39
2-Chlorotoluene	95-49-8			ND	ND	ND	ND	ND
Cyclohexane	110-82-7			ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1			ND	ND	ND	ND	ND
1,2-Dibromoethane	106-93-4			ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1			ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1			ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	0.227	2.27	ND	ND	ND	**6.19**	**3.11**
1,2-Dichloroethane	107-06-2			ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3			ND	ND	ND	ND	ND
1,1-Dichloroethene	75-35-4			ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	156-59-2			ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	156-60-5			ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5			ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	10061-01-5			ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	10061-02-6			ND	ND	ND	ND	ND
1,4-Dioxane	123-91-1			ND	ND	ND	ND	ND
Ethanol	64-17-5			6.13	3.95	3.77	137	111
Ethylbenzene	100-41-4			ND	ND	ND	ND	ND
4-Ethyltoluene	622-96-8			ND	ND	ND	ND	ND
Trichlorofluoromethane	75-69-4	320	700	1.51	1.39	1.53	3.11	2.4
Dichlorodifluoromethane	75-71-8	45.7	100	1.6	1.36	1.56	1.49	1.46
1,1,2-Trichlorotrifluoroethane	76-13-1			ND	ND	ND	ND	ND
1,2-Dichlorotetrafluoroethane	76-14-2			ND	ND	ND	ND	ND
Heptane	142-82-5			ND	ND	ND	ND	ND
Hexachloro-1,3-butadiene	87-68-3			ND	ND	ND	ND	ND
n-Hexane	110-54-3	320	700	ND	ND	ND	1.28	ND
Isopropylbenzene	98-82-8			ND	ND	ND	ND	ND
Methylene Chloride	75-09-2	250	600	1.11	ND	ND	ND	ND
Methyl Butyl Ketone	591-78-6			ND	ND	ND	ND	ND
2-Butanone (MEK)	78-93-3			ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	108-10-1			ND	ND	ND	ND	ND
Methyl Methacrylate	80-62-6			ND	ND	ND	ND	ND
MTBE	1634-04-4			ND	ND	ND	ND	ND
Naphthalene	91-20-3			ND	ND	ND	ND	ND
2-Propanol	67-63-0			ND	ND	ND	ND	ND
Propene	115-07-1			ND	ND	ND	1.54	ND
Styrene	100-42-5			ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5			ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	9.62	40	7.41	ND	ND	2.64	ND
Tetrahydrofuran	109-99-9			ND	ND	ND	ND	ND
Toluene	108-88-3	2,289	5,000	1.3	1.52	1.6	2.75	1.95
1,2,4-Trichlorobenzene	120-82-1			ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6			ND	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5			ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	0.37	2.0	ND	ND	ND	**6.22**	ND
1,2,4-Trimethylbenzene	95-63-6	3.2	7.0	ND	ND	ND	1.12	ND
1,3,5-Trimethylbenzene	108-67-8			ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	540-84-1			ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4			ND	ND	ND	ND	ND
Vinyl Bromide	593-60-2			ND	ND	ND	ND	ND
Vinyl Acetate	108-05-4			ND	ND	ND	ND	ND
m&p-Xylene	1330-20-7			ND	ND	ND	ND	ND
o-Xylene	95-47-6			ND	ND	ND	ND	ND

Notes:
Samples analyzed for VOCs via EPA Method TO-15

ug/m^3=micrograms per cubic meter

MTCA - Washington State Department of Ecology Model Toxics Control Act

[1] = MTCA 2015 Method B Indoor Air Screening Level

[2] = MTCA 2015 Method C Indoor Air Screening Level

Bold denotes concentration at or above 2015 MTCA Method B and C Indoor Air Screening Levels

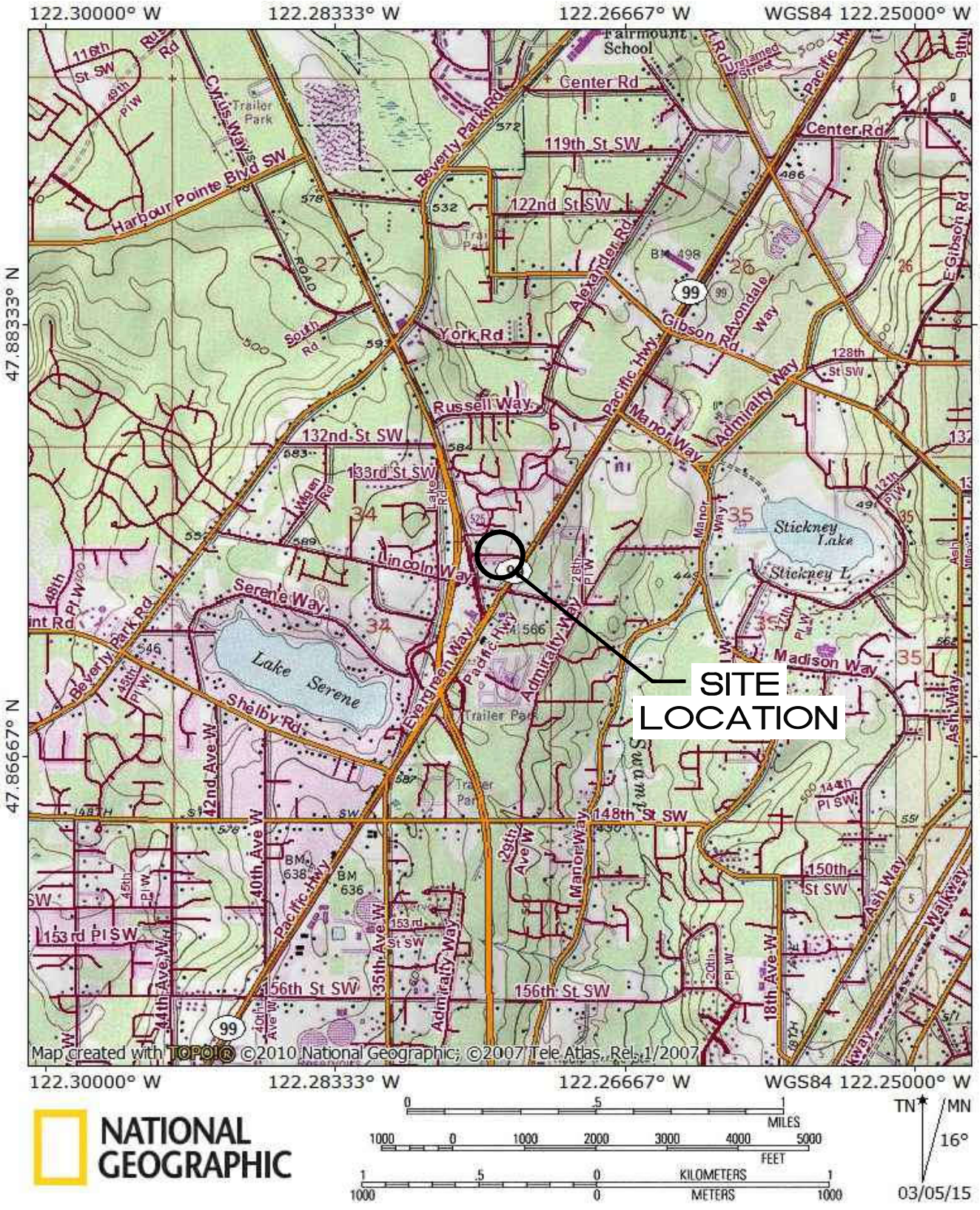
ND = Not detected at or above laboratory reporting limit

Table 9
Former Harbour Point Cleaners
13619 Mukilteo Speedway
Indoor and Outdoor Air and SSDS Effluent Sampling Results
Samples obtained on July 6, 2018
Concentrations in micrograms per cubic meter (ug/m^3)

Analyte	CAS #	MTCA Method B Screening Level[1]	MTCA Method C Screening Level[2]	OA-1	OA-2	OA-3	IA-1	IA-2
Acetone	67-64-1	14,171	31,000	5.21	6.36	4.66	47.8	39.4
Allyl Chloride	107-05-1			ND	ND	ND	ND	ND
Benzene	71-43-2	13.7	30	ND	ND	ND	ND	3.62
Benzyl Chloride	100-44-7			ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4			ND	ND	ND	ND	ND
Bromoform	75-25-2			ND	ND	ND	ND	ND
Bromomethane	74-83-9			ND	ND	ND	ND	ND
1,3-Butadiene	106-99-0			ND	ND	ND	ND	ND
Carbon Disulfide	75-15-0			ND	ND	ND	ND	ND
Carbon Tetrachloride	56-23-5	0.417	4.17	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7			ND	ND	ND	ND	ND
Chloroethane	75-00-3			ND	ND	ND	ND	ND
Chloroform	67-66-3			ND	ND	ND	ND	ND
Chloromethane	74-87-3	41.1	90	0.946	0.89	0.883	0.981	1.08
2-Chlorotoluene	95-49-8			ND	ND	ND	ND	ND
Cyclohexane	110-82-7			ND	ND	ND	ND	3.53
Dibromochloromethane	124-48-1			ND	ND	ND	ND	ND
1,2-Dibromoethane	106-93-4			ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1			ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1			ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	0.227	2.27	ND	ND	ND	**2.87**	**1.43**
1,2-Dichloroethane	107-06-2			ND	ND	ND	0.988	ND
1,1-Dichloroethane	75-34-3			ND	ND	ND	ND	ND
1,1-Dichloroethene	75-35-4			ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	156-59-2			ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	156-60-5			ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5			ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	10061-01-5			ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	10061-02-6			ND	ND	ND	ND	ND
1,4-Dioxane	123-91-1			ND	ND	ND	ND	ND
Ethanol	64-17-5			4.83	11.5	7.77	194 E	232 E
Ethylbenzene	100-41-4			ND	ND	ND	1.48	5.38
4-Ethyltoluene	622-96-8			ND	ND	ND	ND	4.93
Trichlorofluoromethane	75-69-4	320	700	1.31	1.25	1.32	26.6	28.6
Dichlorodifluoromethane	75-71-8	45.7	100	1.83	1.59	1.75	2.65	2.81
1,1,2-Trichlorotrifluoroethane	76-13-1			ND	ND	ND	ND	ND
1,2-Dichlorotetrafluoroethane	76-14-2			ND	ND	ND	ND	ND
Heptane	142-82-5			ND	ND	ND	ND	4.62
Hexachloro-1,3-butadiene	87-68-3			ND	ND	ND	ND	ND
n-Hexane	110-54-3	320	700	ND	ND	0.832	1.73	7.63
Isopropylbenzene	98-82-8			ND	ND	ND	ND	ND
Methylene Chloride	75-09-2	250	600	0.948	ND	1.49	1.85	ND
Methyl Butyl Ketone	591-78-6			ND	ND	ND	ND	ND
2-Butanone (MEK)	78-93-3			ND	9.05	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	108-10-1			ND	ND	ND	ND	ND
Methyl Methacrylate	80-62-6			ND	ND	ND	ND	ND
MTBE	1634-04-4			ND	ND	ND	ND	ND
Naphthalene	91-20-3			ND	ND	ND	ND	ND
2-Propanol	67-63-0			ND	11.8	ND	46.9	22.6
Propene	115-07-1			ND	ND	ND	ND	ND
Styrene	100-42-5			ND	ND	ND	1.25	0.99
1,1,2,2-Tetrachloroethane	79-34-5			ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	9.62	40	ND	ND	ND	ND	ND
Tetrahydrofuran	109-99-9			ND	ND	ND	ND	ND
Toluene	108-88-3	2,289	5,000	3.36	1.35	2.53	9.33	35.5
1,2,4-Trichlorobenzene	120-82-1			ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6			ND	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5			ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	0.37	2.0	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	95-63-6	3.2	7.0	ND	ND	ND	ND	**5.49**
1,3,5-Trimethylbenzene	108-67-8			ND	ND	ND	ND	1.49
2,2,4-Trimethylpentane	540-84-1			ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4			ND	ND	ND	ND	ND
Vinyl Bromide	593-60-2			ND	ND	ND	ND	ND
Vinyl Acetate	108-05-4			ND	ND	ND	ND	ND
m&p-Xylene	1330-20-7			ND	ND	ND	ND	20.4
o-Xylene	95-47-6			ND	ND	ND	ND	6.84

Notes:
Samples analyzed for VOCs via EPA Method TO-15
ug/m^3=micrograms per cubic meter
MTCA - Washington State Department of Ecology Model Toxics Control Act
[1] = MTCA 2015 Method B Indoor Air Screening Level
[2] = MTCA 2015 Method C Indoor Air Screening Level
Bold denotes concentration at or above 2015 MTCA Method B and C Indoor Air Screening Levels
ND = Not detected at or above laboratory reporting limit

FIGURES



NATIONAL GEOGRAPHIC

SOURCE: USGS TOPO MAP, EDMONDS EAST, WA, 1981

SITE LOCATION MAP

FORMER HARBOUR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER: 282EM00166		DATE: 11/10/16	FIGURE 1
APPROVED BY: SP		DRAWN BY: BK	

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

SAMPLE LOCATIONS

FORMER HARBOUR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER: NPWRI18001		DATE: 9/27/18	FIGURE 2
APPROVED BY: ES		DRAWN BY: BK	

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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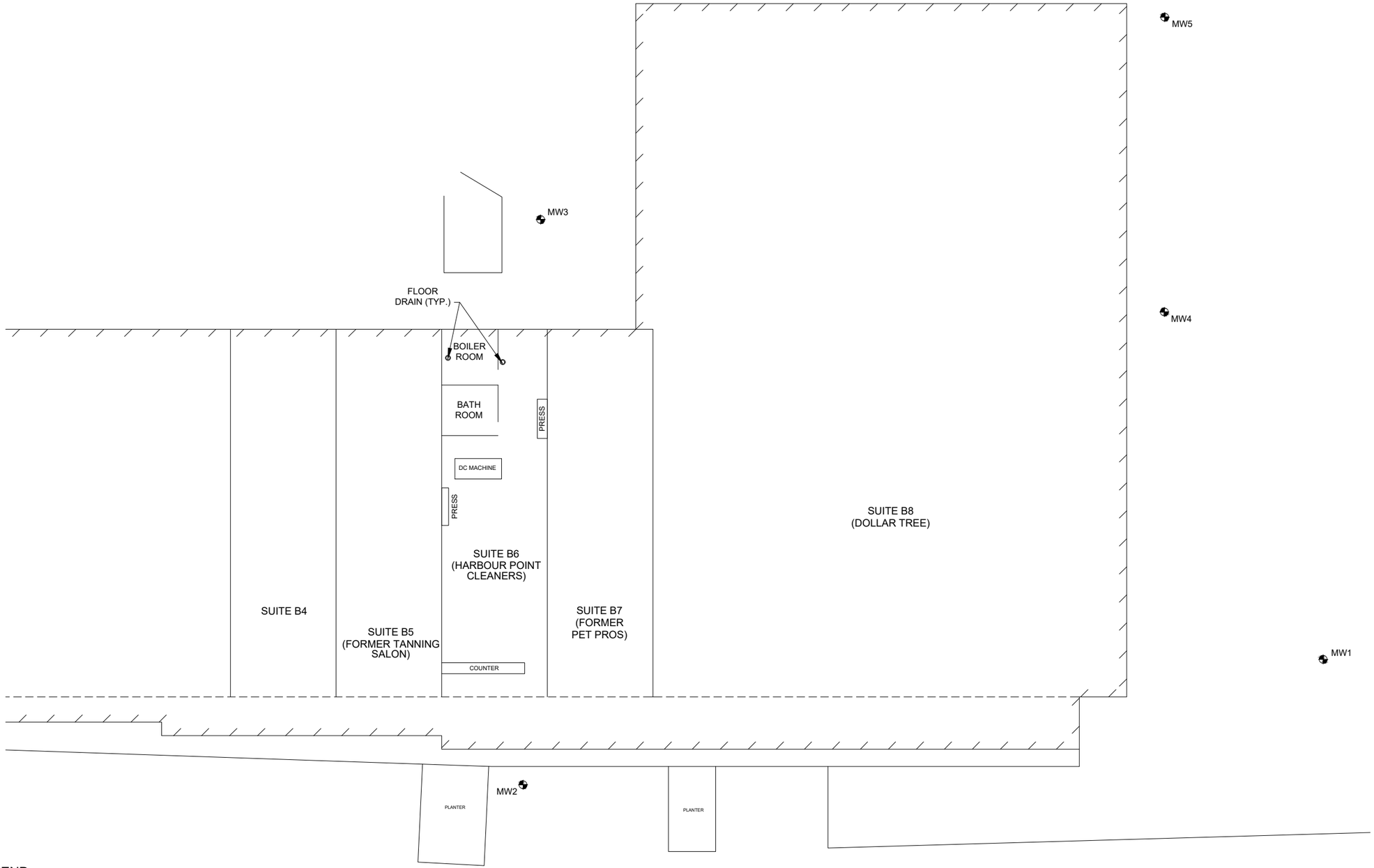


LEGEND

MONITOR WELL BUCHANAN ENVIR.

0 20 40

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

S:\P

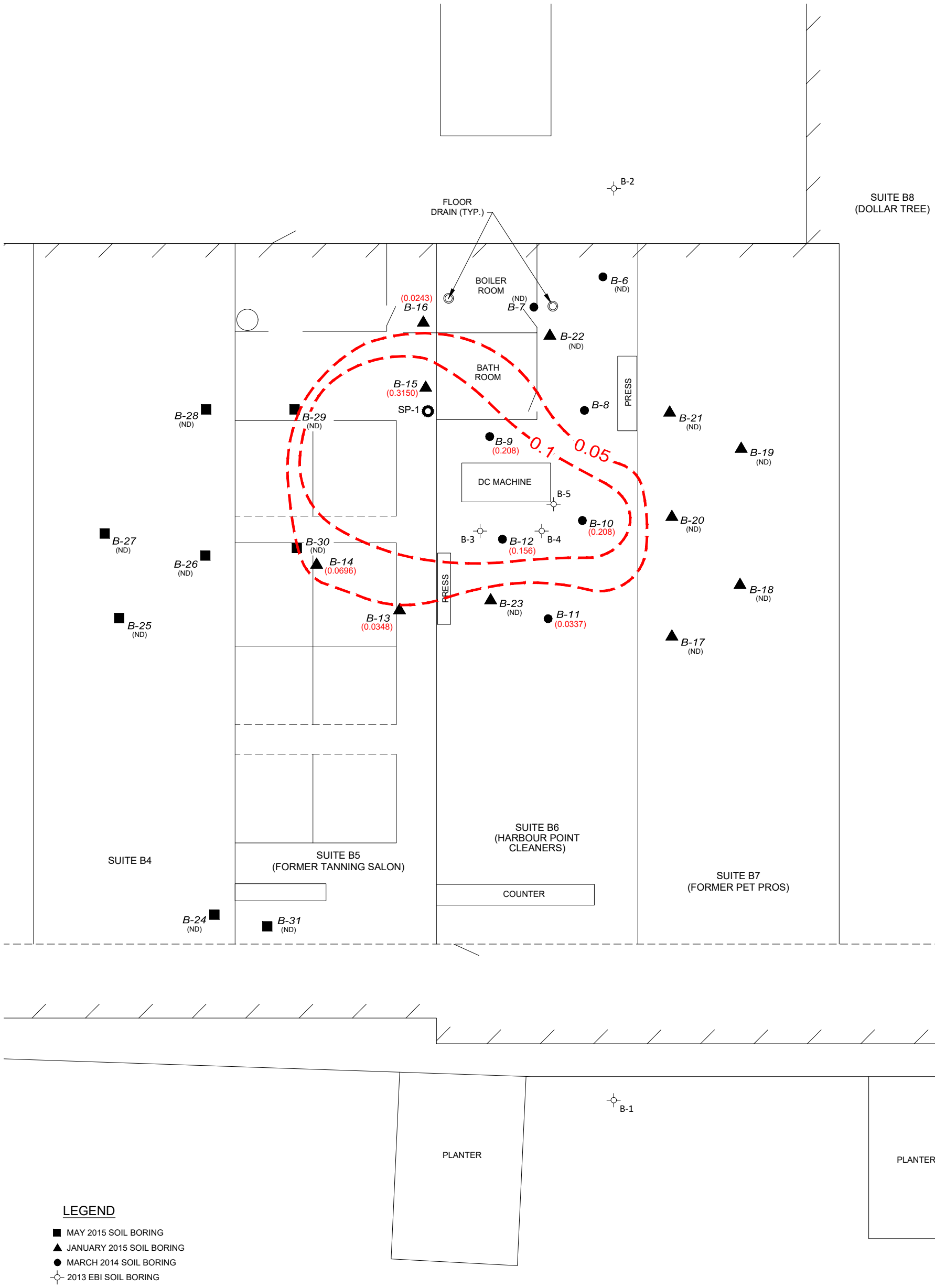
GROUNDWATER MONITORING WELL LOCATIONS

FORMER HARBOUR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER: NPWR118001
APPROVED BY: ES
DATE: 9/27/18
DRAWN BY: BK

FIGURE 3

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543



PRE-REMEDIATION PCE CONCENTRATIONS IN SOIL AT 1 FOOT BELOW GROUND LEVEL ISOCONTOURS

FORMER HARBOUR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER:	NPWRI18001	DATE:	9/28/18	FIGURE 4
APPROVED BY:	ES	DRAWN BY:	BK	

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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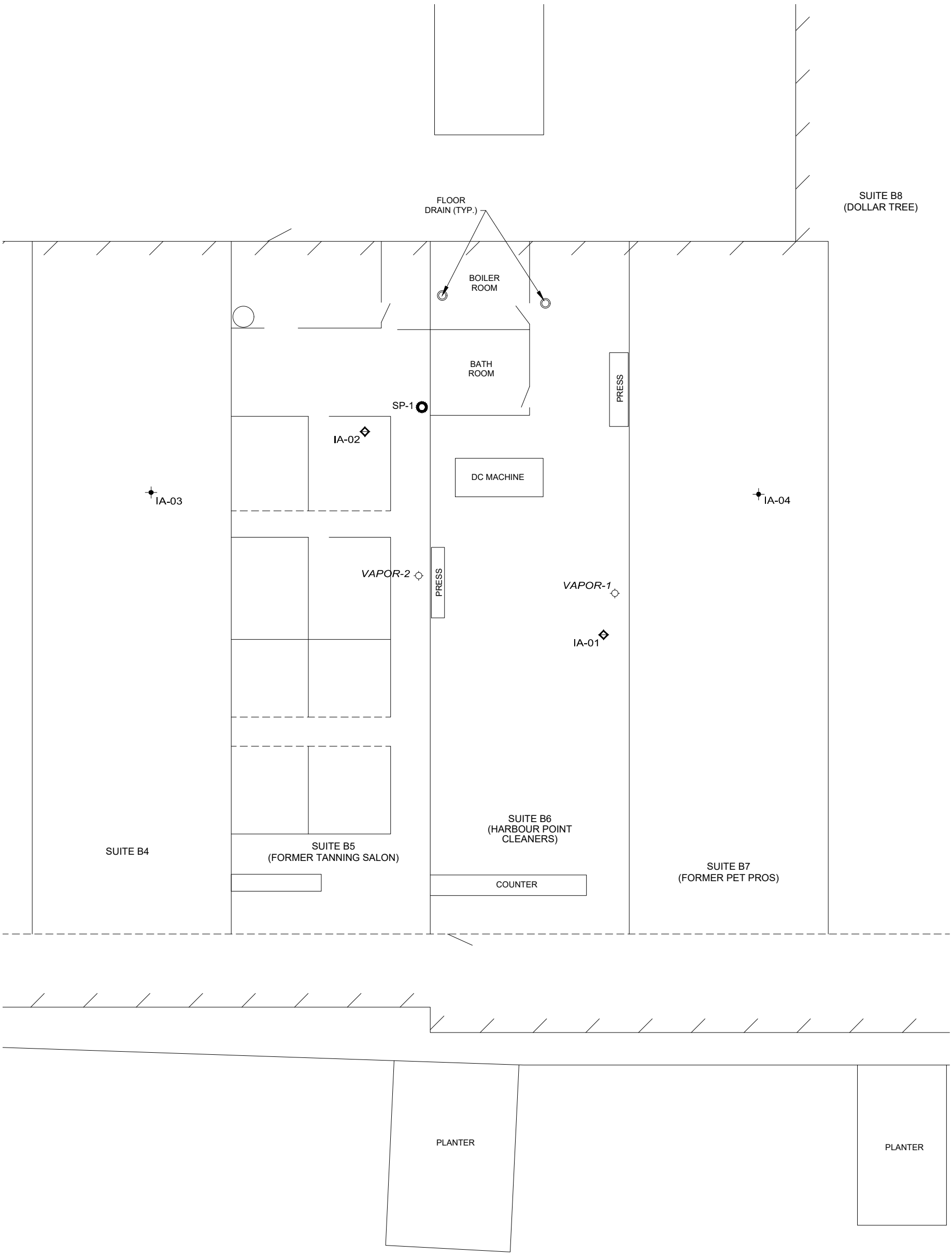

LEGEND

- MARCH 2017 THRU JULY 2018 INDOOR AIR QUALITY SAMPLE
- JULY 2015 INDOOR AIR QUALITY SAMPLE
- MAY 2015 INDOOR AIR QUALITY SAMPLE
- LOCATION OF SUB-SLAB DEPRESSURIZATION SYSTEM RISER PIPE

0 10 20

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

INDOOR AIR QUALITY SAMPLE LOCATIONS

FORMER HARBOUR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER: NPWRI18001		DATE: 9/27/18	FIGURE 5
APPROVED BY: ES		DRAWN BY: BK	

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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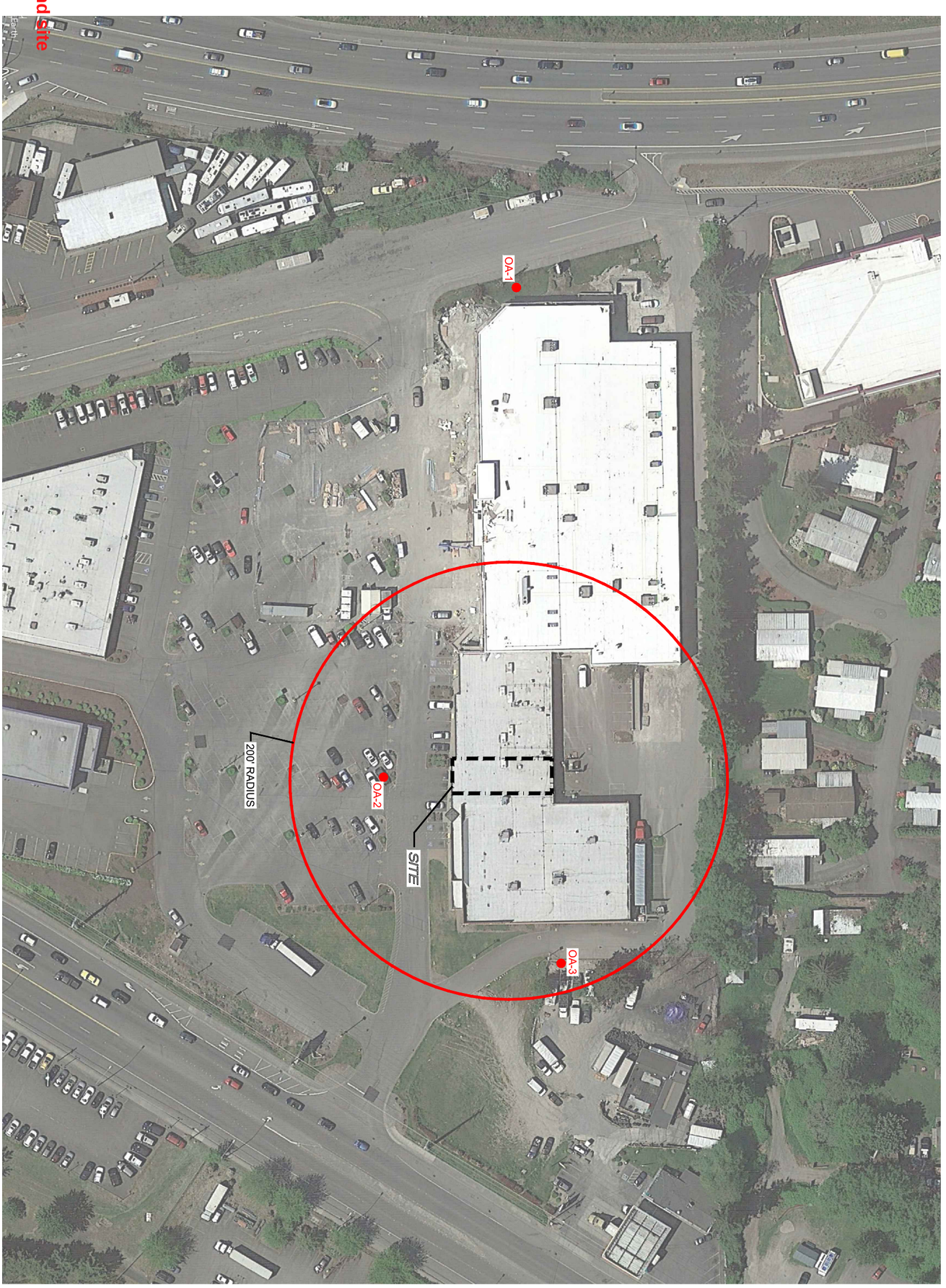
SOURCE: GOOGLE EARTH PRO, 5/13/18
NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

0 100 200
APPROX. SCALE, FT

LEGEND

● OUTDOOR AIR SAMPLE

--- 200 foot radius around site

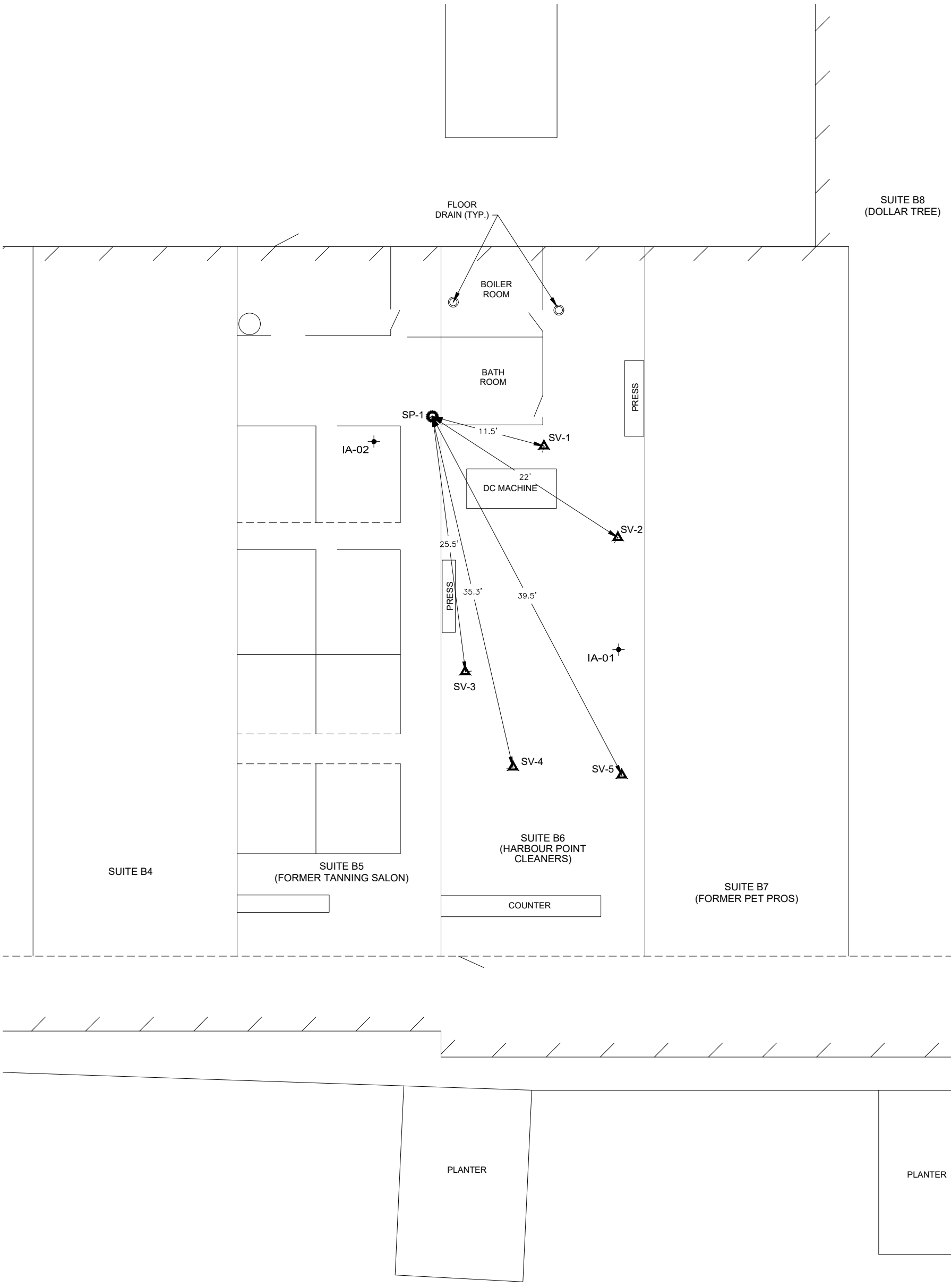


OUTDOOR AIR SAMPLE LOCATIONS

FORMER HARBOUR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER: NPWRI18001		DATE: 9/25/18	FIGURE
APPROVED BY: ES		DRAWN BY: BK	6

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543



LEGEND

- JULY 2015 INDOOR AIR QUALITY SAMPLE
- MAY 2017 SUB-SLAB MONITORING POINT
- LOCATION OF SUB-SLAB DEPRESSURIZATION SYSTEM RISER PIPE

0 10 20

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

SELECT INDOOR AIR, SUB-SLAB EXTRACTION AND SSD SAMPLE LOCATIONS

FORMER HARBOUR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER: NPWRI18001		DATE: 9/27/18	FIGURE 7
APPROVED BY: ES		DRAWN BY: BK	

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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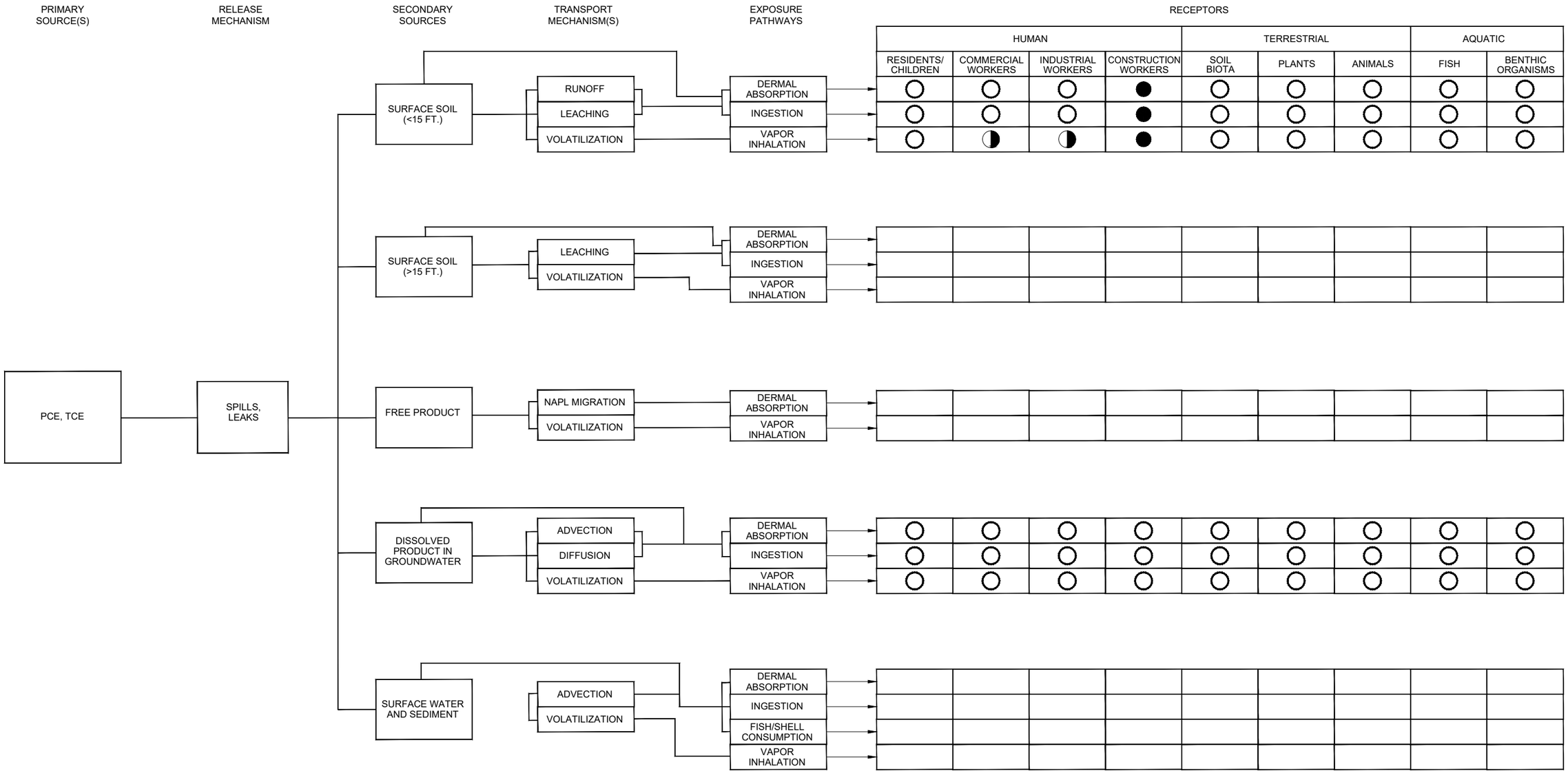

LEGEND

- ○ EXPOSURE PATHWAY EVALUATED, DETERMINED INCOMPLETE
- ◑ EXPOSURE PATHWAY EVALUATED, DETERMINED INCOMPLETE, BUT CONSIDERED INSIGNIFICANT
- ● EXPOSURE PATHWAY EVALUATED, DETERMINED COMPLETE
- □ SECONDARY SOURCE NON-EXISTANT, THEREFORE, EXPOSURE PATHWAY INCOMPLETE

CONCEPTUAL SITE MODEL

FORMER HARBOR POINT CLEANERS
13619 MUKILTEO SPEEDWAY
LYNNWOOD, WA

PROJECT NUMBER: NPWRI18001		DATE: 9/25/18	FIGURE 8
APPROVED BY: ES		DRAWN BY: BK	

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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APPENDIX A

SOIL BORING LOGS

RESOURCE PROTECTION WELL REPORT

Washington State Department of Ecology

Original and 1st copy – Ecology, 2nd Copy – owner, 3rd copy – driller

PROPOSED USE:
- [x] Construction
- [ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____
- Consulting Firm _____

Current Notice of Intent No. RE01509

Type of Well [x] Resource Protection [ ] Geotech Soil Boring
Unique Ecology Well ID Tag No. APP 716

DRILLING METHOD
- [x] Hollow Stem Auger
- [ ] Air Rotary
- [ ] Mud Rotary
- [ ] Dual Rotary
- [ ] Core
- [ ] Other _____

Borehole Diameter 6

WELL LOCATION
Project Name N/A
Owner Muk. Hee Properties LLC
Well Address 15619 Muk Hee Speedway
City Lynnwood County Snohomish
Location SE 1/4 NE 1/4 Sec 34 Twn 28 R 4 E or W

MONUMENT
- [ ] Above Ground Riser [ ] 6" x 5' [ ] 8" x 5' Stick up height _____ ft
- [x] Flush Mount [x] 8" [ ] 12" [ ] Other _____

Amount of Concrete used 2 SACKS

Tax Parcel No. _____
Construction/Decommission Start Date 6-13-06
Construction/Decommission Completed Date 6-15-06
Static Level _____

CASING INSTALLED
- [ ] PVC [x] Sch 40 [ ] Sch 80 [ ] Inclinometer [ ] Other _____
- [ ] Threaded _____ " Diameter from _____ ft to _____ ft
- [x] Glued 2" " Diameter from 0 ft to 5 ft
- [ ] Welded _____ " Diameter from _____ ft to _____ ft

SCREEN
- [ ] PVC [x] Sch 40 [ ] Sch 80 [ ] Other
- Diameter 2 Slot Size .020 from 5 ft to 15 ft
- [ ] Pre Pack Type [ ] PVC [ ] Sch 40 [ ] Sch 80 [ ] Other _____
- Diameter of inner screen _____ " x Diameter of outer screen _____ "
- Slot Size _____ Installed from _____ ft to _____ ft
- [ ] Stainless Steel _____ " Diameter from _____ ft to _____ ft
- [ ] Other _____ _____ " Diameter from _____ ft to _____ ft

SEAL
Type of material used [x] Bentonite Chips Amount 2 SACKS
- [ ] Bentonite Grout Amount _____
- [ ] Portland Cement Amount _____
- [ ] Other _____ Amount _____

Placed from 1 ft to 3 ft

SAND/GRAVEL PACK
Type of material used [x] Silica Sand Size 10/20 [ ] Pea Gravel
- [ ] Other _____

Placed from 3 ft to 15 ft
Amount of material used 10 SACKS

CONSTRUCTION OR DECOMMISSION PROCEDURE

Material or Formation	From	To
Asphalt	0	8"
Poorly Graded Sand+Gravels - Fill	8"	6
Sandy Silt Brown	6	9
Silty Sand Brown	9	12
Till - Refusal	12	15

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 above are true to my best knowledge and belief.

- [ ] Driller [x] Trainee Name (print) Cory M James
- Driller / Trainee Signature _____
- Driller or Trainee License No. 2828T

Drilling Company Gregory Drilling, Inc.
If Trainee, licensed driller's Signature and License No. Lawrence N Gregory 1973

RESOURCE PROTECTION WELL REPORT

Washington State Department of Ecology

Original and 1st copy – Ecology, 2nd Copy – owner, 3rd copy - driller

PROPOSED USE:
☒ Construction
☐ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* ____
Consulting Firm ____

Current Notice of Intent No. RE01537

Type of Well ☒ Resource Protection ☐ Geotech Soil Boring
Unique Ecology Well ID Tag No. APP 737

DRILLING METHOD
☒ Hollow Stem Auger ☐ Air Rotary
☐ Mud Rotary ☐ Dual Rotary
☐ Core ☐ Other ____
Borehole Diameter 8

WELL LOCATION
Project Name NA
Owner Mukilteo Properties LLC
Well Address 13919 Mukilteo Speedway
City Lynnwood County Snohomish
Location SE 1/4 NE 1/4 Sec 34 Twn 28 R 4E or W

MONUMENT
☐ Above Ground Riser ☐ 6" x 5' ☐ 8" x 5' Stick up height ____ ft
☒ Flush Mount ☒ 8" ☐ 12" ☐ Other ____
Amount of Concrete used ____

Tax Parcel No. ____
Construction/Decommission Start Date 7-27-06
Construction/Decommission Completed Date 7-27-06
Static Level ____

CASING INSTALLED
☐ PVC ☒ Sch 40 ☐ Sch 80 ☐ Inclinometer ☐ Other ____
☒ Threaded 2 " Diameter from 0 ft to 5 ft
☐ Glued ____ " Diameter from ____ ft to ____ ft
☐ Welded ____ " Diameter from ____ ft to ____ ft

SCREEN
☐ PVC ☒ Sch 40 ☐ Sch 80 ☐ Other ____
Diameter 2 Slot Size .020 from 5 ft to 15 ft
☐ Pre Pack Type ☐ PVC ☐ Sch 40 ☐ Sch 80 ☐ Other ____
Diameter of inner screen ____ " x Diameter of outer screen ____ "
Slot Size ____ Installed from ____ ft to ____ ft
☐ Stainless Steel ____ " Diameter from ____ ft to ____ ft
☐ Other ____ " Diameter from ____ ft to ____ ft

SEAL
Type of material used ☒ Bentonite Chips Amount 2
☐ Bentonite Grout Amount ____
☐ Portland Cement Amount ____
☐ Other ____ Amount ____
Placed from 2 ft to 5 ft

SAND/GRAVEL PACK
Type of material used ☒ Silica Sand Size 10/20 ☐ Pea Gravel
☐ Other ____
Placed from 5 ft to 15 ft
Amount of material used 9 sacks

CONSTRUCTION OR DECOMMISSION PROCEDURE

Material or Formation	From	To
Asphalt	0	4
Fill Mat/Course Brown Sand Gravels	4	6
Till	6	8
Med/Course Brown Sand	8	12
Till	12	15

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 above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (print) Cory M James
Driller / Trainee Signature ____
Driller or Trainee License No. 2828T

Drilling Company Gregory Drilling, Inc.
If Trainee, licensed driller's Signature and License No. 1973

RESOURCE PROTECTION WELL REPORT

Washington State Department of Ecology

Original and 1st copy – Ecology, 2nd Copy – owner, 3rd copy - driller

PROPOSED USE:
☒ Construction
☐ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____
Consulting Firm _____

Current Notice of Intent No. RE01537

Type of Well ☐ Resource Protection ☐ Geotech Soil Boring
Unique Ecology Well ID Tag No APP 738

DRILLING METHOD
☒ Hollow Stem Auger ☐ Air Rotary
☐ Mud Rotary ☐ Dual Rotary
☐ Core ☐ Other _____
Borehole Diameter 6

WELL LOCATION
Project Name N/A
Owner Mukilteo Properties LLC
Well Address 13619 Mukilteo Speedway
City Lynnwood County Snohomish
Location SE 1/4 NE 1/4 Sec 29 Twn 28 R 4 ☒ E or W
Tax Parcel No. _____
Construction/Decommission Start Date 7-27-06
Construction/Decommission Completed Date 7-27-06
Static Level _____

MONUMENT
☐ Above Ground Riser ☐ 6" x 5' ☐ 8" x 5' Stick up height _____ ft
☒ Flush Mount ☒ 8" ☐ 12" ☐ Other _____
Amount of Concrete used _____

CASING INSTALLED
☐ PVC ☒ Sch 40 ☐ Sch 80 ☐ Inclinometer ☐ Other _____
☒ Threaded 2" Diameter from 0 ft to 5 ft
☐ Glued _____" Diameter from _____ ft to _____ ft
☐ Welded _____" Diameter from _____ ft to _____ ft

CONSTRUCTION OR DECOMMISSION PROCEDURE

Material or Formation	From	To
Asphalt	0	4
Gravels + Poorly Graded Sand	4	1
Fine/med Brown Sand	1	6
Till	6	8
med/course Brown Sand	8	14
Till	14	18

SCREEN
☐ PVC ☒ Sch 40 ☐ Sch 80 ☐ Other _____
Diameter 2 Slot Size .020 from 5 ft to 18 ft
☐ Pre Pack Type ☐ PVC ☐ Sch 40 ☐ Sch 80 ☐ Other _____
Diameter of inner screen _____" x Diameter of outer screen _____"
Slot Size _____ Installed from _____ ft to _____ ft
☐ Stainless Steel _____" Diameter from _____ ft to _____ ft
☐ Other _____ _____" Diameter from _____ ft to _____ ft

SEAL
Type of material used ☒ Bentonite Chips Amount 2 SACKS
☐ Bentonite Grout Amount _____
☐ Portland Cement Amount _____
☐ Other _____ Amount _____
Placed from 2 ft to 6 ft

SAND/GRAVEL PACK
Type of material used ☒ Silica Sand Size 10/20 ☐ Pea Gravel
☐ Other _____
Placed from 6 ft to 18 ft
Amount of material used 12 SACKS

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 above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (print) Corey M James
Driller / Trainee Signature _____
Driller or Trainee License No. 2826

Drilling Company Gregory Drilling, Inc.
If Trainee, licensed driller's Signature and License No. Lawrence H. Gregory 1973

RESOURCE PROTECTION WELL REPORT #4

WELL TAG NO. APP-740 START CARD NO. RE01562

PROJECT NAME: Mukilteo Properties LLC

WELL IDENTIFICATION NO. Monitoring

DRILLING METHOD: Hollow Stem Auger

DRILLER: Corey M. James

FIRM: Gregory Drilling inc.

SIGNATURE: Cory M James

CONSULTING FIRM: Buchanan Environmental

REPRESENTATIVE: Paul Buchanan

COUNTY: Snohomish

LOCATION SE ¼ NE ¼ Sec 34 Twn 28 R 4E

STREET ADDRESS OF WELL: 15619 Mukilteo Speedway, Lynnwood, WA.

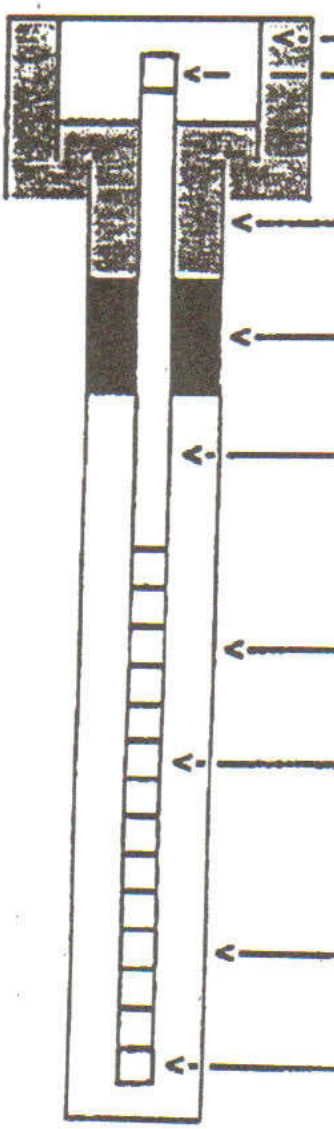
WATER LEVEL ELEVATION: n/a

GROUND SURFACE ELEVATION: n/a

INSTALLED: 8-22-06

DEVELOPED: Buchanan Environmental

Soil Type	Depth (in feet below ground surface)
0 — 8" Asphalt	0
8" — 4' (Poorly Graded Sand & Gravel Fill material)	2'
4' — 12' Sandy SILT Brown	4'
12' — 20' Medium Grade Sand	5'
20' — 25' Glacial TILL Small Gravel Sand - Medium SILT.	
	25'



Stick-up Height (if applicable)

Monument Type 8" flush Monument

Well Cap Type 2" cap

Grout Type/#Sacks 1½ sk Concrete mix

Bentonite Seal/#Sacks 2 sk Bentonite Chips

Well Casing I.D.: 2"

Type of casing Sch 40 PVC

Type of connection Flush Thread

Filter Pack/size/#Sacks 10-20 Silica, 23 sks

Well Screen I.D 2"

Type of Screen Sch 40 PVC.

Slot size .020

Diameter of borehole 8"

Endcap Type 2" cap

Remarks: Trainee — Cory M James # 2828 T

Driller — Lawrence N. Gregory # 1923

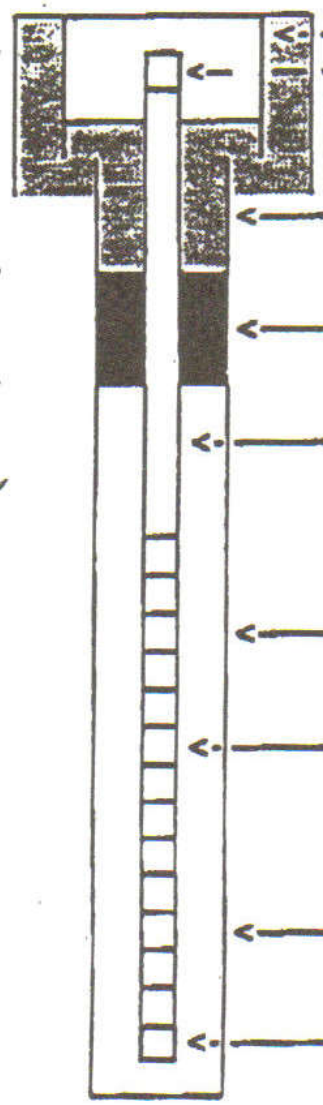
RESOURCE PROTECTION WELL REPORT #5

WELL TAG NO. APP 741 START CARD NO. RED1562

PROJECT NAME: Mukilteo Properties LLC
WELL IDENTIFICATION NO. Monitoring
DRILLING METHOD: Hollow Stem Auger
DRILLER: Corey M James
FIRM: Gregory Drilling inc.
SIGNATURE: Cory M James
CONSULTING FIRM: Buchanan Environmental
REPRESENTATIVE: Dave Buchanan

COUNTY: Snohomish
LOCATION: SE ¼ NE ¼ Sec 34 Twn 28 R 4 E
STREET ADDRESS OF WELL: 1569 Mukilteo Speedway Lynnwood, WA.
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 8-22-06
DEVELOPED: Buchanan Environmental

Soil Type	Depth (in feet below ground surface)
0 — 8" Asphalt	0
8" — 4.5' Poorly Graded Sand & Gravel	
4.5' — 13' Sandy Silt Brown	2
	4
13' — 20' Medium Grade Sand	5'
20' — 25' Glacial Till Sand — Rounded Gravel & Silt	
	25



Stick-up Height (if applicable)
Monument Type 8" Flush Monument
Well Cap Type 2" Cap
Grout Type/#Sacks 2 st Concrete Mix
Bentonite Seal/#Sacks 2 st Bentonite Chips
Well Casing I.D.: 2"
Type of casing Sch 40 PVC
Type of connection Flush Thread
Filter Pack/size/#Sacks 10-20 Silica, 21 sks
Well Screen I.D 2"
Type of Screen Sch 40 PVC
Slot size .020
Diameter of borehole 8"
Endcap Type 2" Cap

Remarks: Trainee — Cory M James # 2828 T
Driller — Laborer N. Gregory # 1973

SOIL BORING LOG - FIELD READINGS

EBI Project #12130032

Project Name: Speedway Shopping Center

Lynnwood, Snohomish County, Washington

BORING METHOD: Direct Push/Combo Auger and Limited Access DP DATE: 03/05/12

Sample #	Depth (Ft)	Moisture (S-H-M-L)	PID Reading	Soil Description/Notes
B-1	0 - 2.5	M	7.0	Light green sandy clay, some gravel/cobbles
B-1	2.5 - 5	M	7.5	Light green sandy clay, some gravel/cobbles
B-1	5 - 7.5	M	12.5	Light brown sandy clay, some gravel/cobbles
B-1	7.5 - 10	M	4.7	Light green sandy clay, some gravel/cobbles
B-1	10 - 12	M	17.8	Light green sandy clay, some gravel/cobbles
B-1	12 - 15	M	11.3	Light green sandy clay, some gravel/cobbles
B-1	15 - 16	M	14.1	Light green sandy clay, some gravel/cobbles
B-1	16 - 25	--	--	No recovery due to switching to hollow stem auger
Bottom of Boring at 25' (Equipment refusal), no groundwater encountered				
B-2	0 - 2.5	M	10.5	Light green sandy clay, some gravel/cobbles
B-2	2.5 - 5	M	13.4	Light green sandy clay, some gravel/cobbles
B-2	5 - 7.5	M	6.3	Light brown sandy clay, some gravel/cobbles
B-2	7.5 - 10	M	7.5	Light green sandy clay, some gravel/cobbles
Bottom of Boring at 10' (Equipment refusal), no groundwater encountered				
B-3	0 - 3	M	10.0	Light green sandy clay, some gravel/cobbles
B-3	3 - 5	M	18.2	Light green sandy clay, some gravel/cobbles
B-3	5 - 6	M	--	No recovery
B-3	6 - 6.5	M	16.5	Light green sandy clay, some gravel/cobbles
Bottom of Boring at 6.5' (Equipment refusal), no groundwater encountered				
B-4	0 - 3	M	15.4	Light green sandy clay, some gravel/cobbles
B-4	3 - 5	M	22.6	Light green sandy clay, some gravel/cobbles
B-4	5 - 6	M	--	No recovery
B-4	6 - 9	M	16.1	Light green sandy clay, some gravel/cobbles
B-4	9 - 11	M	17.2	Light green sandy clay, some gravel/cobbles
Bottom of Boring at 11' (Equipment refusal), no groundwater encountered				
B-5	0 - 3	M	20.0	Light green sandy clay, some gravel/cobbles
B-5	3 - 5	M	14.5	Light green sandy clay, some gravel/cobbles
B-5	5 - 6	M	--	No recovery
B-5	6 - 9	M	16.5	Light green sandy clay, some gravel/cobbles
Bottom of Boring at 9' (Equipment refusal), no groundwater encountered				

BORING LOG #: B-6 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	76.75354.0008	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, Wa		

Event Information

Logged by:	SP	Well/Boring Designation:	B-6
Boring Depth:	7 feet	Surface Elevation:	
GW Encountered	No	Start Date:	03/12/14
Static GW Level:		End Date:	03/12/14
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4-inches concrete	
1				0.3	SM	SILTY SAND: light brown fine sand with 20% medium sand; 0-20% coarse gravel; 15-35% silt; damp; no product odor	Backfilled with Bentonite Chips
2				0.8			
3					ML	SILT with SAND: light brown silt with 20% fine sand; 20%	
4				0.9		medium to coarse sand; strong induration; damp; no product odor	
5							
6							
7				2.2		Boring terminated at 7 feet below surface due to drilling refusal	
8							
9							

BORING LOG #: B-7 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	76.75354.0008	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, Wa		

Event Information

Logged by:	SP	Well/Boring Designation:	B-7
Boring Depth:	7 feet	Surface Elevation:	
GW Encountered	No	Start Date:	03/12/14
Static GW Level:		End Date:	03/12/14
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4-inches concrete	
1				1.2	ML	SILTY SAND: medium brown medium sand with 20% fine	Backfilled with Bentonite Chips
						sand; 30% silt; moderate induration; damp; no product odor;	
2						no recovery 2 - 4 feet	
3							
4					ML	SILT with SAND: olive-brown silt with 20% fine sand; 10%	
						medium sand; moderate induration; damp; no product odor	
5						no recovery 5 to 7 feet	
6							
7						Boring terminated at 7 feet below surface due to drilling	
						refusal	
8							
9							

BORING LOG #: B-8 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	76.75354.0008	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, Wa		

Event Information

Logged by:	SP	Well/Boring Designation:	B-8
Boring Depth:	10 feet	Surface Elevation:	
GW Encountered	No	Start Date:	03/12/14
Static GW Level:		End Date:	03/12/14
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4-inches concrete	
1				1.6	ML	SILT with SAND: light brown silt with 30% fine sand; 10%	Backfilled with Bentonite Chips
						medium sand; 0 to 10% gravel; strong induration; dry;	
2				2.3		no product odor	
3							
4				2.9			
5						dark olive brown; 55% silt; 30% fine sand; 10% medium	
6						sand; 5% gravel; strong induration; dry; no product odor	
7						below 4 feet	
8				2.3			
9						olive-brown with orange mottling; 60% silt; 30% fine sand;	
10						10% medium sand; strong induration; dry; no product odor	
				1.8		below 8 feet	
						Boring terminated at 10 feet below surface due to drilling	
						refusal	

BORING LOG #: B-9 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	76.75354.0008	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, Wa		

Event Information

Logged by:	SP	Well/Boring Designation:	B-9
Boring Depth:	2 feet	Surface Elevation:	
GW Encountered	No	Start Date:	03/12/14
Static GW Level:		End Date:	03/12/14
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4-inches concrete	
1				2.9	ML	SILT with SAND: medium brown silt with 30% fine sand;	
						15% medium sand; 0 to 10% gravel; strong induration; dry	
2				2.3		no product odor	
						Boring terminated at 2 feet below surface due to drilling	
3						refusal; boring backfilled with bentonite	
4							
5							
6							
7							
8							
9							

BORING LOG #: B-610 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	76.75354.0008	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, Wa		

Event Information

Logged by:	SP	Well/Boring Designation:	B-10
Boring Depth:	10 feet	Surface Elevation:	
GW Encountered	No	Start Date:	03/12/14
Static GW Level:		End Date:	03/12/14
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4-inches concrete	
1				2.2	SM	SILTY SAND: medium brown fine sand with 10% medium sand; 0 to 10% gravel; 25% silt; moderate induration; dry	Backfilled with Bentonite Chips
2				3.4		no product odor	
3							
					ML	SILT with SAND: olive brown silt with 35% fine sand; 5%	
4				1.8		medium sand; 0 to 10% gravel; strong induration; dry; no product odor	
5						light brown with 55% silt; 35% fine sand; 10% medium sand; trace gravel; moderate induration; dry; no product odor below	
6						4 feet	
7						medium brown with 60% silt; 35% fine sand; 5% medium	
8						sand; strong induration; damp; no product odor beow 7 feet	
9				1.1			
10						Boring terminated at 10 feet below surface due to drilling refusal	

BORING LOG #: B-11 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	76.75354.0008	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, Wa		

Event Information

Logged by:	SP	Well/Boring Designation:	B-11
Boring Depth:	7 feet	Surface Elevation:	
GW Encountered	No	Start Date:	03/12/14
Static GW Level:		End Date:	03/12/14
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4-inches concrete	
1				3.0	SM	SILTY SAND: medium brown fine sand with 15% medium	Backfilled with Bentonite Chips
						sand; 15% gravel; 20% silt; moderate induration; damp; no	
2				2.7		product odor	
3							
					ML	SILT with GRAVEL: dark brown silt with 20% fine sand;	
4				2.5		25% gravel; moderate induration; dry; no product odor	
5							
6							
7						Boring terminated at 7 feet below surface due to drilling	
						refusal	
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-12 ; Page 1 of 1

Cardno ATC Project Name: HP Cleaners
Cardno ATC Project #: 76.75354.0008
Location: 13619 Mukilteo Spdwy, Lynnwood, Wa

Drilling Information

Drilling Contractor:	ESN
Drilling Method:	Direct Push
Borehole Diameter:	2-inch
Sampler Type:	Macrocore

Event Information

Logged by:	SP	Well/Boring Designation:	B-12
Boring Depth:	7 feet	Surface Elevation:	
GW Encountered	No	Start Date:	03/12/14
Static GW Level:		End Date:	03/12/14
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4-inches concrete	
1				6.0	ML	SILT with SAND: dark brown silt with 35% fine sand;	Backfilled with Bentonite Chips
						0-10% gravel; 10% medium sand; moderate induration; dry	
2				7.2		no product odor	
3							
4				7.8			
5							
6							
7				10.4			
						Boring terminated at 7 feet below surface due to drilling	
8						refusal	
9							

BORING LOG #: B-13 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-13
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				0.9	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				0.8			
3				0.8			
4				1.4		As above; moderate induration; dry; NPO.	
						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
5							
6							
7							
8							
9							

BORING LOG #: B-14 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-14
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				1.0	SP	MEDIUM SAND; brown, 50% medium sand; 20% fine sand; 20% silt; 10% small gravel; dry; loose; NPO.	
2				0.6			
3				1.1		SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; NPO.	
4				1.7			
						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
5							
6							
7							
8							
9							

BORING LOG #: B-15 ; Page 1 of 1

Cardno ATC
Shaping the Future

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-15
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				1.1	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				0.9			
3				1.0			
4				0.8		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							

BORING LOG #: B-16 ; Page 1 of 1

Cardno ATC

Shaping the Future

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-16
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				1.2	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.3			
3				1.1			
4				1.2		As above; moderate induration; dry; NPO.	
						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
5							
6							
7							
8							
9							

BORING LOG #: B-17 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-17
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				1.2	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.3			
3				1.3			
4				1.4		As above; moderate induration; dry; NPO.	
						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
5							
6							
7							
8							
9							

BORING LOG #: B-18 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-18
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				1.5	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.3			
3				1.5			
4				1.0		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							

BORING LOG #: B-19 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-19
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				1.1	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				2.0			
3				1.5			
4				2.0		As above; moderate induration; dry; NPO.	
						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
5							
6							
7							
8							
9							

BORING LOG #: B-20 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-20
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				1.1	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.0			
3				1.3			
4				0.8		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							

BORING LOG #: B-21 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-21
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered		Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				3.0	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.5			
3				0.7			
4				1.1		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							

BORING LOG #: B-22 ; Page 1 of 1

Cardno ATC
Shaping the Future

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-22
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				0.4	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				0.3			
3				1.0			
4				0.8		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							

BORING LOG #: B-23 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00018	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-23
Boring Depth:	4 feet	Surface Elevation:	
GW Encountered	No	Start Date:	01/29/15
Static GW Level:		End Date:	01/29/15
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 8-inches concrete w/ gravelly fill.	
1				0.8	SM	SILTY SAND; brown, 60% fine sand, 25% silt, 5 to10% small and medium gravel; 5 to 10% coarse sand; dry; slightly cohesive; weak induration; No petroleum-like odor	
2				1.2			
3				1.5			
4				0.7		As above; moderate induration; dry; NPO.	
5						Boring terminated at 4 feet below surface due to drilling refusal; boring backfilled with bentonite	
6							
7							
8							
9							

BORING LOG #: B-24; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00061	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-24
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND; brown; 60% fine sand; 15% coarse sand; 10% silt; 5% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

BORING LOG #: B-25 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00061	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-25
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND; brown; 60% fine sand; 15% coarse sand; 10% silt; 5% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

BORING LOG #: B-26 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00061	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-26
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.2	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration;	Backfilled with Bentonite
2							
3							
4				1.8		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

BORING LOG #: B-27 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00061	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-27
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0		As above.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-28 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-28
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 4" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3						SILTY SAND; light brown; 60% fine sand; 20% coarse sand;	
4				0.0	SM	20% silt; moderate induration; dry' NPO.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

Cardno ATC
Shaping the Future

BORING LOG #: B-29 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-29
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 6" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3						SILTY SAND; light brown; 60% fine sand; 20% coarse sand;	
4				0.0	SM	20% silt; moderate induration; dry' NPO.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

BORING LOG #: B-30 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
Cardno ATC Project #:	282EM00061	Drilling Contractor:	ESN
		Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-30
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 6" Concrete	
1				0.0	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3							
4				0.0			
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

BORING LOG #: B-31 ; Page 1 of 1

Cardno ATC Project Name:	HP Cleaners	**Drilling Information**	
		Drilling Contractor:	ESN
Cardno ATC Project #:	282EM00061	Drilling Method:	Direct Push
		Borehole Diameter:	2-inch
Location:	13619 Mukilteo Spdwy	Sampler Type:	Macrocore
	Lynnwood, WA		

Event Information

Logged by:	MN	Well/Boring Designation:	B-31
Boring Depth:		Surface Elevation:	
GW Encountered	No	Start Date:	5/12/2015
Static GW Level:		End Date:	
Notes:			

Depth (ft)	Recovery	Sample Interval	Blow Counts	PID/FID Readings	USCS Classification	Soil Classification/ Description	Well Construction
						Surface: 6" Concrete	
1				0.1	SP	FINE SAND with GRAVEL; light brown; 60% fine sand; 15% coarse sand; 10% silt; 10% fine gravel; dry; slight induration; NPO.	Backfilled with Bentonite
2							
3						SILTY SAND; light brown; 60% fine sand; 20% coarse sand;	
4				0.6		20% silt; moderate induration; dry' NPO.	
						Boring terminated at 4 feet bgs.	
5							
6							
7							
8							
9							

APPENDIX B

TERRESTRIAL ECOLOGICAL EVALUATION

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

DEPARTMENT OF ECOLOGY
State of Washington

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are documenting an evaluation.

Facility/Site Name: Harbour Pointe Cleaners Lynnwood	
Facility/Site Address: 13619 Mukilteo Speedway, Lynnwood WA 98037	
Facility/Site No: 41352598	VCP Project No.: NW2902

Step 2: IDENTIFY EVALUATOR

Please identify below the person who conducted the evaluation and their contact information.

Name: Elisabeth Silver		Title: Project Manager
Organization: ATC Group Services		
Mailing address: 6347 Seaview Ave NW		
City: Seattle	State: WA	Zip code: 98107
Phone: 206-781-1449	Fax: 206-781-1543	E-mail: elisabeth.silver@atcgs.com

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous# undeveloped± land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☒ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous# undeveloped± land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

± "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

"Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*

☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use? *Check all that apply. See* WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

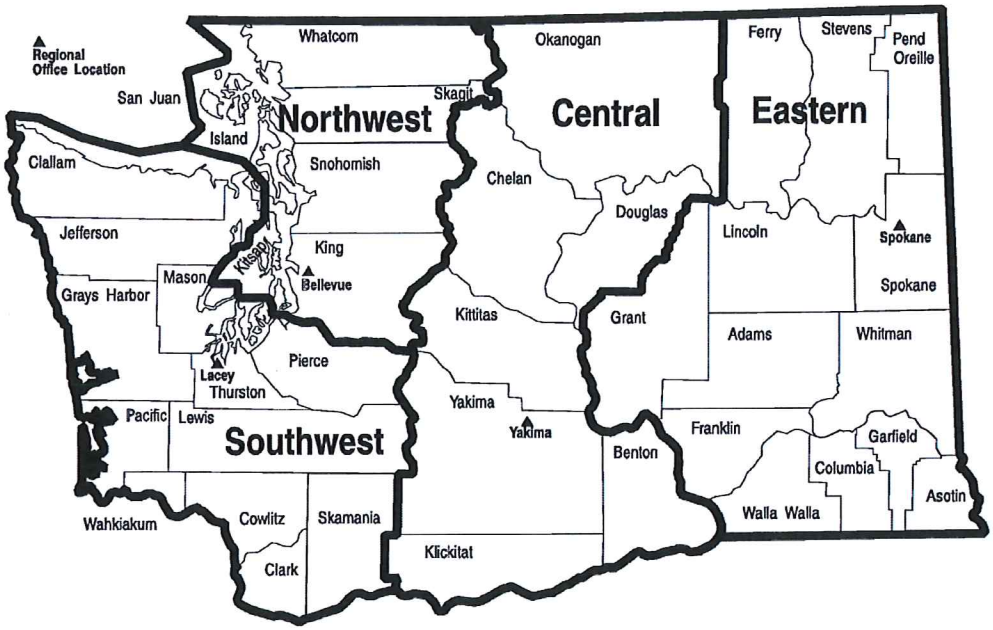
☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295



APPENDIX C

2018 LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

January 24, 2018

ATC Group Services LLC - Seattle, WA

Sample Delivery Group:	L964904
Samples Received:	01/23/2018
Project Number:	282EM00171
Description:	HP Cleaners

Report To: Simon Payne
6347 Seaview Avenue NW
Seattle, WA 98107

Entire Report Reviewed By:

Brian Ford
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

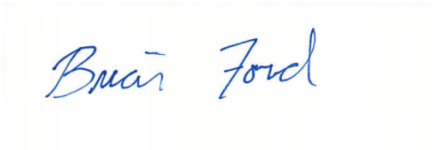
TABLE OF CONTENTS

EFF-011818 L964904-01 Air

Collected by	Collected date/time	Received date/time
Nicholas Turner	01/18/18 10:49	01/23/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1065339	1	01/23/18 17:25	01/23/18 17:25	AMC

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	6.04	14.4		1	WG1065339
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1065339
Benzene	71-43-2	78.10	0.200	0.639	0.281	0.899		1	WG1065339
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1065339
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1065339
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1065339
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1065339
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1065339
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1065339
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1065339
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1065339
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1065339
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1065339
Chloromethane	74-87-3	50.50	0.200	0.413	0.457	0.944		1	WG1065339
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1065339
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1065339
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1065339
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1065339
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1065339
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1065339
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	2.29	13.8	J4	1	WG1065339
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1065339
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1065339
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1065339
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1065339
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1065339
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1065339
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1065339
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1065339
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1065339
Ethanol	64-17-5	46.10	0.630	1.19	37.3	70.4		1	WG1065339
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1065339
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.374	1.83		1	WG1065339
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.602	3.38		1	WG1065339
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	2.21	10.9		1	WG1065339
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1065339
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1065339
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1065339
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1065339
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1065339
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1065339
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.437	1.52		1	WG1065339
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1065339
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1065339
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1065339
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1065339
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1065339
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1065339
2-Propanol	67-63-0	60.10	1.25	3.07	12.1	29.8		1	WG1065339
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1065339
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1065339
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1065339
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1065339
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1065339
Toluene	108-88-3	92.10	0.200	0.753	0.944	3.56		1	WG1065339
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1065339

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1065339
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1065339
Trichloroethylene	79-01-6	131	0.200	1.07	0.452	2.42		1	WG1065339
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.445	2.18		1	WG1065339
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1065339
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1065339
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1065339
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1065339
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1065339
m&p-Xylene	1330-20-7	106	0.400	1.73	0.664	2.88		1	WG1065339
o-Xylene	95-47-6	106	0.200	0.867	0.264	1.14		1	WG1065339
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.6*				WG1065339

Method Blank (MB)

(MB) R3281374-3 01/23/18 09:54

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3281374-3 01/23/18 09:54

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	0.109	J	0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*95.9*			*60.0-140*

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

(LCS) R3281374-1 01/23/18 08:32 • (LCSD) R3281374-2 01/23/18 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	4.15	4.11	111	110	52.0-158			0.837	25
Propene	3.75	4.01	3.90	107	104	54.0-155			2.58	25
Dichlorodifluoromethane	3.75	4.55	4.44	121	118	69.0-143			2.36	25
1,2-Dichlorotetrafluoroethane	3.75	4.50	4.32	120	115	70.0-130			4.08	25
Chloromethane	3.75	4.19	4.09	112	109	70.0-130			2.49	25

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

(LCS) R3281374-1 01/23/18 08:32 • (LCSD) R3281374-2 01/23/18 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	4.17	4.04	111	108	70.0-130			3.19	25
1,3-Butadiene	3.75	4.00	3.88	107	103	70.0-130			3.03	25
Bromomethane	3.75	4.38	4.26	117	114	70.0-130			2.73	25
Chloroethane	3.75	4.09	4.11	109	109	70.0-130			0.451	25
Trichlorofluoromethane	3.75	4.47	4.28	119	114	70.0-130			4.19	25
1,1,2-Trichlorotrifluoroethane	3.75	4.31	4.22	115	113	70.0-130			2.17	25
1,1-Dichloroethene	3.75	4.10	4.02	109	107	70.0-130			1.83	25
1,1-Dichloroethane	3.75	4.03	3.97	108	106	70.0-130			1.66	25
Acetone	3.75	3.97	3.88	106	103	70.0-130			2.38	25
2-Propanol	3.75	3.90	3.87	104	103	66.0-150			0.739	25
Carbon disulfide	3.75	4.10	4.04	109	108	70.0-130			1.36	25
Methylene Chloride	3.75	3.87	3.74	103	99.9	70.0-130			3.18	25
MTBE	3.75	4.12	4.07	110	109	70.0-130			1.20	25
trans-1,2-Dichloroethene	3.75	4.05	3.99	108	106	70.0-130			1.33	25
n-Hexane	3.75	4.13	4.01	110	107	70.0-130			2.90	25
Vinyl acetate	3.75	3.95	3.93	105	105	70.0-130			0.348	25
Methyl Ethyl Ketone	3.75	4.15	4.12	111	110	70.0-130			0.700	25
cis-1,2-Dichloroethene	3.75	4.20	4.17	112	111	70.0-130			0.726	25
Chloroform	3.75	4.18	4.12	111	110	70.0-130			1.54	25
Cyclohexane	3.75	4.21	4.18	112	111	70.0-130			0.676	25
1,1,1-Trichloroethane	3.75	4.33	4.26	115	113	70.0-130			1.70	25
Carbon tetrachloride	3.75	4.38	4.27	117	114	70.0-130			2.65	25
Benzene	3.75	4.27	4.20	114	112	70.0-130			1.51	25
1,2-Dichloroethane	3.75	4.30	4.22	115	112	70.0-130			1.97	25
Heptane	3.75	4.19	4.17	112	111	70.0-130			0.493	25
Trichloroethylene	3.75	4.33	4.33	116	115	70.0-130			0.0948	25
1,2-Dichloropropane	3.75	4.19	4.17	112	111	70.0-130			0.547	25
1,4-Dioxane	3.75	4.30	4.31	115	115	70.0-152			0.232	25
Bromodichloromethane	3.75	4.37	4.31	116	115	70.0-130			1.28	25
cis-1,3-Dichloropropene	3.75	4.29	4.31	114	115	70.0-130			0.655	25
4-Methyl-2-pentanone (MIBK)	3.75	4.15	4.12	111	110	70.0-142			0.845	25
Toluene	3.75	4.56	4.50	122	120	70.0-130			1.23	25
trans-1,3-Dichloropropene	3.75	4.43	4.38	118	117	70.0-130			1.25	25
1,1,2-Trichloroethane	3.75	4.49	4.44	120	118	70.0-130			1.17	25
Tetrachloroethylene	3.75	4.66	4.66	124	124	70.0-130			0.0428	25
Methyl Butyl Ketone	3.75	4.27	4.22	114	113	70.0-150			0.973	25
Dibromochloromethane	3.75	4.67	4.60	125	123	70.0-130			1.60	25
1,2-Dibromoethane	3.75	4.58	4.50	122	120	70.0-130			1.63	25
Chlorobenzene	3.75	4.64	4.59	124	122	70.0-130			1.11	25
Ethylbenzene	3.75	4.59	4.54	122	121	70.0-130			1.03	25

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

(LCS) R3281374-1 01/23/18 08:32 • (LCSD) R3281374-2 01/23/18 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	9.38	9.19	125	122	70.0-130			2.05	25
o-Xylene	3.75	4.67	4.56	125	122	70.0-130			2.38	25
Styrene	3.75	4.79	4.72	128	126	70.0-130			1.29	25
Bromoform	3.75	4.78	4.70	128	125	70.0-130			1.75	25
1,1,2,2-Tetrachloroethane	3.75	4.45	4.40	119	117	70.0-130			1.18	25
4-Ethyltoluene	3.75	4.73	4.64	126	124	70.0-130			1.89	25
1,3,5-Trimethylbenzene	3.75	4.72	4.60	126	123	70.0-130			2.54	25
1,2,4-Trimethylbenzene	3.75	4.71	4.57	126	122	70.0-130			3.18	25
1,3-Dichlorobenzene	3.75	4.81	4.70	128	125	70.0-130			2.34	25
1,4-Dichlorobenzene	3.75	4.91	4.81	131	128	70.0-130	J4		2.09	25
Benzyl Chloride	3.75	4.73	4.59	126	122	70.0-144			3.01	25
1,2-Dichlorobenzene	3.75	4.78	4.68	127	125	70.0-130			2.04	25
1,2,4-Trichlorobenzene	3.75	5.05	4.96	135	132	70.0-155			1.69	25
Hexachloro-1,3-butadiene	3.75	4.93	4.83	132	129	70.0-145			2.11	25
Naphthalene	3.75	4.98	4.90	133	131	70.0-155			1.54	25
Allyl Chloride	3.75	3.86	3.81	103	102	70.0-130			1.15	25
2-Chlorotoluene	3.75	4.83	4.70	129	125	70.0-130			2.58	25
Methyl Methacrylate	3.75	4.28	4.23	114	113	70.0-130			1.08	25
Tetrahydrofuran	3.75	3.84	3.81	102	102	70.0-140			0.861	25
2,2,4-Trimethylpentane	3.75	4.24	4.18	113	111	70.0-130			1.53	25
Vinyl Bromide	3.75	4.69	4.28	125	114	70.0-130			9.09	25
Isopropylbenzene	3.75	4.71	4.63	126	124	70.0-130			1.61	25
(S) 1,4-Bromofluorobenzene				*99.5*	*99.6*	*60.0-140*				

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.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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, 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.
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.
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.
J4	The associated batch QC was outside the established quality control range for accuracy.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

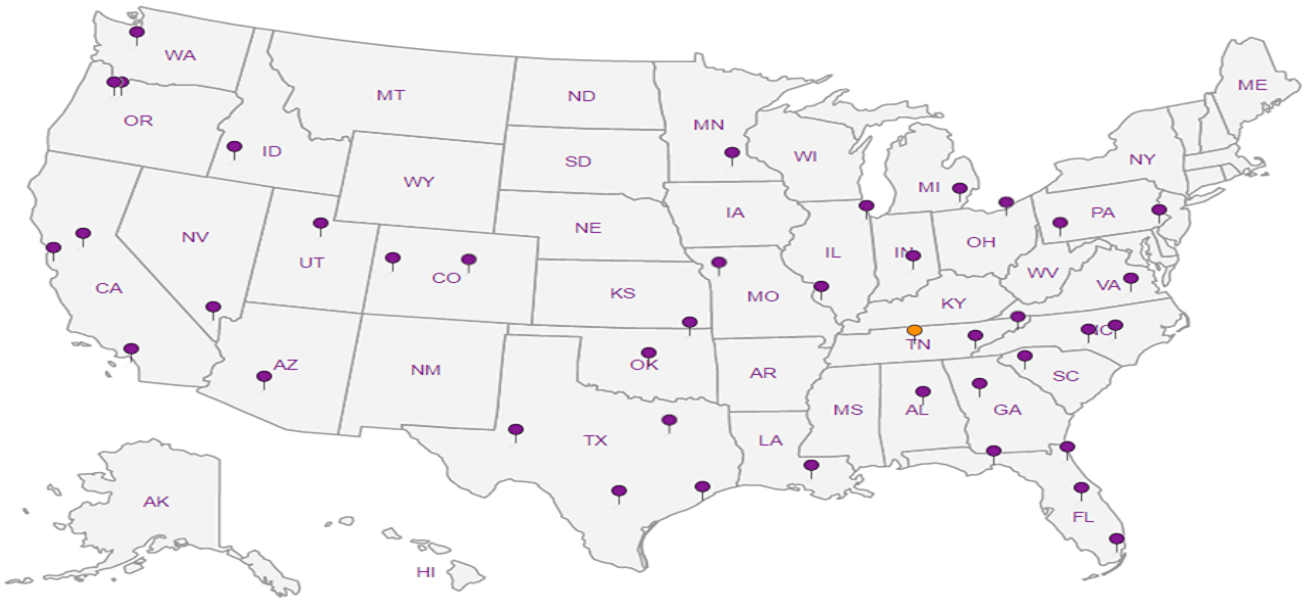
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



ATC Group Services LLC - Seattle, WA

6347 Seaview Avenue NW
Seattle, WA 98107

Billing Information:
Simon Payne
6347 Seaview Avenue NW
Seattle, WA 98107

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L964904
M200

Report to: Simon Payne

Email To: simon.payne@atcassociates.com

Project Description: HP Cleaners

City/State Collected: Lynnwood, WA

Phone: 206-781-1449
Fax:

Client Project # 282EM00171

Lab Project # ATCSWA-282EM00171

Collected by (print): Nicholas Turner

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N X Y ___

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: Standard TAT

Acctnum: ATCSWA
Template: T129188
Prelogin: P635219
TSR: 110 - Brian Ford
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa	Remarks	Sample # (lab only)
EFF-011818	Grab	Air	—	01/18/18	1049	1	X		-01

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: (1)6Liter summa, (1)200cc/min manifolds, (1)tubing and fittings

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 746014661388

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: 11/22/18	Time: 0800	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb °C Bottles Received: 1 — If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) 860	Date: 1/23/18 Time: 845 — Hold: — Condition: NCF / (OK)

ANALYTICAL REPORT

February 19, 2018

ATC Group Services LLC - Seattle, WA

Sample Delivery Group:	L971154
Samples Received:	02/17/2018
Project Number:	282EM00171
Description:	HP Cleaners

Report To: Simon Payne
6347 Seaview Avenue NW
Seattle, WA 98107

Entire Report Reviewed By:

Brian Ford
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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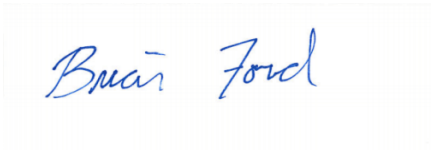
EFF-021518 L971154-01 Air

Collected by	Collected date/time	Received date/time
Nicholas Turner	02/15/18 10:34	02/17/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1074712	1	02/17/18 19:40	02/17/18 19:40	MBF

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	16.0	38.0		1	WG1074712
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1074712
Benzene	71-43-2	78.10	0.200	0.639	0.339	1.08		1	WG1074712
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1074712
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1074712
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1074712
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1074712
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1074712
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1074712
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1074712
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1074712
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1074712
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1074712
Chloromethane	74-87-3	50.50	0.200	0.413	0.528	1.09		1	WG1074712
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1074712
Cyclohexane	110-82-7	84.20	0.200	0.689	0.226	0.779		1	WG1074712
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1074712
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1074712
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1074712
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1074712
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	1.74	10.5		1	WG1074712
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1074712
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1074712
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1074712
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1074712
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1074712
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1074712
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1074712
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1074712
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1074712
Ethanol	64-17-5	46.10	0.630	1.19	88.9	168	E	1	WG1074712
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1074712
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1074712
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.799	4.49		1	WG1074712
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.405	2.00		1	WG1074712
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1074712
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1074712
Heptane	142-82-5	100	0.200	0.818	0.239	0.977		1	WG1074712
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1074712
n-Hexane	110-54-3	86.20	0.200	0.705	0.394	1.39		1	WG1074712
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1074712
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.246	0.854		1	WG1074712
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1074712
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	1.57	4.64		1	WG1074712
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1074712
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1074712
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1074712
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1074712
2-Propanol	67-63-0	60.10	1.25	3.07	1.78	4.37		1	WG1074712
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1074712
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1074712
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1074712
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.209	1.42		1	WG1074712
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	0.973	2.87		1	WG1074712
Toluene	108-88-3	92.10	0.200	0.753	1.80	6.77		1	WG1074712
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1074712

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1074712
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1074712
Trichloroethylene	79-01-6	131	0.200	1.07	0.374	2.00		1	WG1074712
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.225	1.10		1	WG1074712
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1074712
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1074712
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1074712
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1074712
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND	J4	1	WG1074712
m&p-Xylene	1330-20-7	106	0.400	1.73	0.560	2.43		1	WG1074712
o-Xylene	95-47-6	106	0.200	0.867	0.208	0.903		1	WG1074712
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.6*				WG1074712

Method Blank (MB)

(MB) R3287253-1 02/17/18 08:42

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	0.210	J	0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3287253-1 02/17/18 08:42

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	0.216	J	0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*102*			*60.0-140*

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

(LCS) R3287253-2 02/17/18 09:26 • (LCSD) R3287253-3 02/17/18 10:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.85	4.24	103	113	52.0-158			9.66	25
Propene	3.75	3.82	3.78	102	101	54.0-155			1.12	25
Dichlorodifluoromethane	3.75	3.86	3.85	103	103	69.0-143			0.325	25
1,2-Dichlorotetrafluoroethane	3.75	4.19	4.08	112	109	70.0-130			2.56	25
Chloromethane	3.75	4.43	4.27	118	114	70.0-130			3.66	25

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

(LCS) R3287253-2 02/17/18 09:26 • (LCSD) R3287253-3 02/17/18 10:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	4.22	4.17	113	111	70.0-130			1.27	25
1,3-Butadiene	3.75	4.19	4.04	112	108	70.0-130			3.62	25
Bromomethane	3.75	4.23	4.18	113	112	70.0-130			1.05	25
Chloroethane	3.75	4.31	4.28	115	114	70.0-130			0.873	25
Trichlorofluoromethane	3.75	4.39	4.34	117	116	70.0-130			1.14	25
1,1,2-Trichlorotrifluoroethane	3.75	4.40	4.31	117	115	70.0-130			2.06	25
1,1-Dichloroethene	3.75	4.40	4.29	117	115	70.0-130			2.35	25
1,1-Dichloroethane	3.75	4.34	4.31	116	115	70.0-130			0.676	25
Acetone	3.75	4.51	4.34	120	116	70.0-130			3.63	25
2-Propanol	3.75	4.64	4.45	124	119	66.0-150			4.22	25
Carbon disulfide	3.75	4.19	4.11	112	110	70.0-130			1.95	25
Methylene Chloride	3.75	4.20	4.15	112	111	70.0-130			1.07	25
MTBE	3.75	4.40	4.34	117	116	70.0-130			1.42	25
trans-1,2-Dichloroethene	3.75	4.47	4.35	119	116	70.0-130			2.59	25
n-Hexane	3.75	4.49	4.38	120	117	70.0-130			2.41	25
Vinyl acetate	3.75	5.14	4.89	137	131	70.0-130	J4	J4	4.84	25
Methyl Ethyl Ketone	3.75	4.77	4.63	127	123	70.0-130			3.00	25
cis-1,2-Dichloroethene	3.75	4.41	4.40	118	117	70.0-130			0.239	25
Chloroform	3.75	4.41	4.30	118	115	70.0-130			2.50	25
Cyclohexane	3.75	4.49	4.36	120	116	70.0-130			2.84	25
1,1,1-Trichloroethane	3.75	4.45	4.36	119	116	70.0-130			2.04	25
Carbon tetrachloride	3.75	4.48	4.37	119	117	70.0-130			2.46	25
Benzene	3.75	4.41	4.30	118	115	70.0-130			2.44	25
1,2-Dichloroethane	3.75	4.40	4.15	117	111	70.0-130			5.99	25
Heptane	3.75	4.48	4.31	119	115	70.0-130			3.96	25
Trichloroethylene	3.75	4.42	4.29	118	114	70.0-130			2.95	25
1,2-Dichloropropane	3.75	4.40	4.33	117	115	70.0-130			1.74	25
1,4-Dioxane	3.75	4.50	4.40	120	117	70.0-152			2.04	25
Bromodichloromethane	3.75	4.41	4.31	118	115	70.0-130			2.23	25
cis-1,3-Dichloropropene	3.75	4.56	4.54	121	121	70.0-130			0.324	25
4-Methyl-2-pentanone (MIBK)	3.75	4.54	4.45	121	119	70.0-142			2.08	25
Toluene	3.75	4.43	4.33	118	116	70.0-130			2.17	25
trans-1,3-Dichloropropene	3.75	4.37	4.38	116	117	70.0-130			0.255	25
1,1,2-Trichloroethane	3.75	4.26	4.08	114	109	70.0-130			4.30	25
Tetrachloroethylene	3.75	4.26	4.20	114	112	70.0-130			1.45	25
Methyl Butyl Ketone	3.75	4.39	4.21	117	112	70.0-150			4.22	25
Dibromochloromethane	3.75	4.27	4.20	114	112	70.0-130			1.72	25
1,2-Dibromoethane	3.75	4.25	4.18	113	112	70.0-130			1.54	25
Chlorobenzene	3.75	4.24	4.09	113	109	70.0-130			3.53	25
Ethylbenzene	3.75	4.57	4.43	122	118	70.0-130			3.06	25

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

(LCS) R3287253-2 02/17/18 09:26 • (LCSD) R3287253-3 02/17/18 10:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	9.23	8.89	123	119	70.0-130			3.73	25
o-Xylene	3.75	4.45	4.34	119	116	70.0-130			2.53	25
Styrene	3.75	4.65	4.51	124	120	70.0-130			3.01	25
Bromoform	3.75	4.64	4.56	124	122	70.0-130			1.88	25
1,1,2,2-Tetrachloroethane	3.75	4.47	4.38	119	117	70.0-130			2.18	25
4-Ethyltoluene	3.75	4.55	4.41	121	118	70.0-130			3.15	25
1,3,5-Trimethylbenzene	3.75	4.50	4.46	120	119	70.0-130			0.813	25
1,2,4-Trimethylbenzene	3.75	4.44	4.47	119	119	70.0-130			0.646	25
1,3-Dichlorobenzene	3.75	4.47	4.55	119	121	70.0-130			1.84	25
1,4-Dichlorobenzene	3.75	4.42	4.47	118	119	70.0-130			1.25	25
Benzyl Chloride	3.75	4.76	4.76	127	127	70.0-144			0.180	25
1,2-Dichlorobenzene	3.75	4.50	4.46	120	119	70.0-130			0.956	25
1,2,4-Trichlorobenzene	3.75	4.68	4.82	125	129	70.0-155			3.00	25
Hexachloro-1,3-butadiene	3.75	4.30	4.33	115	115	70.0-145			0.695	25
Naphthalene	3.75	4.26	4.62	114	123	70.0-155			8.09	25
Allyl Chloride	3.75	4.49	4.40	120	117	70.0-130			2.17	25
2-Chlorotoluene	3.75	4.50	4.44	120	119	70.0-130			1.34	25
Methyl Methacrylate	3.75	4.42	4.35	118	116	70.0-130			1.56	25
Tetrahydrofuran	3.75	4.57	4.41	122	118	70.0-140			3.47	25
2,2,4-Trimethylpentane	3.75	4.45	4.36	119	116	70.0-130			2.14	25
Vinyl Bromide	3.75	4.42	4.34	118	116	70.0-130			1.98	25
Isopropylbenzene	3.75	4.53	4.40	121	117	70.0-130			2.92	25
(S) 1,4-Bromofluorobenzene				*102*	*98.4*	*60.0-140*				

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.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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, 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.
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.
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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

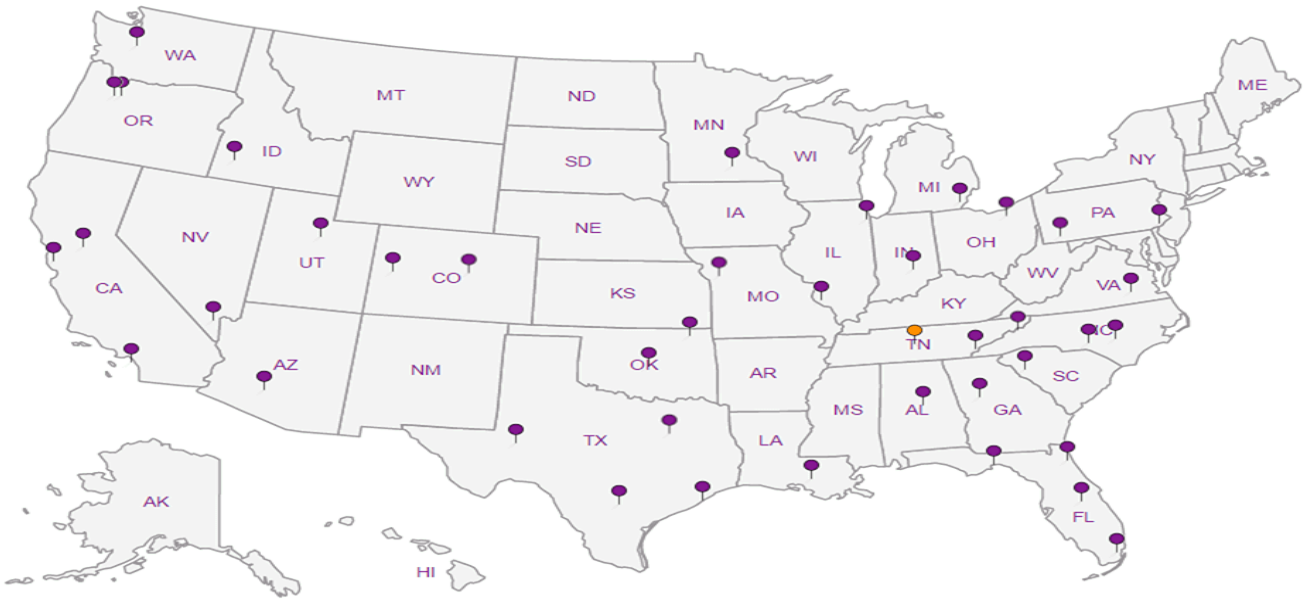
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



ATC Group Services LLC - Seattle, WA

6347 Seaview Avenue NW
Seattle, WA 98107

Billing Information:
Simon Payne
6347 Seaview Avenue NW
Seattle, WA 98107

Report to: Simon Payne

Email To: simon.payne@atcassociates.com

Project Description: HP Cleaners

City/State Collected:

Phone: 206-781-1449
Fax:

Client Project # 282EM00171

Lab Project # ATCSWA-282EM00171

Collected by (print): N. Nicholas Turner

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N X Y ___

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: Standard TAT

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa											
EFF-021518	G	Air	—	02/15/18	1034	1	X										-01	

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
a division of Pace

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L971154

Tat M149

Acctnum: ATCSWA
Template: T129188
Prelogin: P639011
TSR: 110 - Brian Ford
PB:

Shipped Via:

Remarks | Sample # (lab only)

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: (1)6Liter summa, (1)200cc/min manifolds, (1)tubing and fittings
Can # 5144
regulator # 00747 8

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__UPS X FedEx __Courier _____

Tracking # 4146 3259 3789

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	If preservation required by Login: Date/Time
	02/16/18	1030			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
				A+B 1	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition NCF / OK
			860	2/17/18 845	

ANALYTICAL REPORT

March 21, 2018

ATC Group Services LLC - Seattle, WA

Sample Delivery Group:	L977692
Samples Received:	03/15/2018
Project Number:	NPWR1 18001
Description:	HP Cleaners 1Q18

Report To: Simon Payne
6347 Seaview Avenue NW
Seattle, WA 98107

Entire Report Reviewed By:

Brian Ford
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

OA-1 L977692-01 Air

Collected by: Nicholas Turner | Collected date/time: 03/13/18 17:03 | Received date/time: 03/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1085091	1	03/16/18 05:04	03/16/18 05:04	MBF

OA-2 L977692-02 Air

Collected by: Nicholas Turner | Collected date/time: 03/13/18 17:10 | Received date/time: 03/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1085091	1	03/16/18 05:51	03/16/18 05:51	MBF

OA-3 L977692-03 Air

Collected by: Nicholas Turner | Collected date/time: 03/13/18 17:15 | Received date/time: 03/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1085091	1	03/16/18 06:41	03/16/18 06:41	MBF

IA-1 L977692-04 Air

Collected by: Nicholas Turner | Collected date/time: 03/13/18 17:33 | Received date/time: 03/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1085091	1	03/16/18 07:29	03/16/18 07:29	MBF

IA-2 L977692-05 Air

Collected by: Nicholas Turner | Collected date/time: 03/13/18 17:24 | Received date/time: 03/15/18 08:45

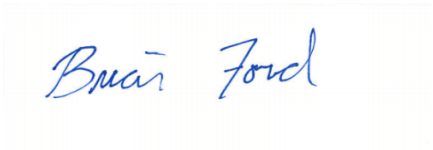
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1085091	1	03/16/18 08:15	03/16/18 08:15	MBF

EFF-031318 L977692-06 Air

Collected by: Nicholas Turner | Collected date/time: 03/13/18 16:36 | Received date/time: 03/15/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1085091	1	03/16/18 09:00	03/16/18 09:00	MBF

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	10.1	23.9		1	WG1085091
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1085091
Benzene	71-43-2	78.10	0.200	0.639	0.224	0.717		1	WG1085091
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1085091
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1085091
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1085091
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1085091
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1085091
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1085091
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1085091
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1085091
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1085091
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1085091
Chloromethane	74-87-3	50.50	0.200	0.413	0.543	1.12		1	WG1085091
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1085091
Cyclohexane	110-82-7	84.20	0.200	0.689	0.722	2.48		1	WG1085091
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1085091
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1085091
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1085091
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1085091
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1085091
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1085091
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1085091
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1085091
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1085091
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1085091
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1085091
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1085091
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1085091
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1085091
Ethanol	64-17-5	46.10	0.630	1.19	29.0	54.7		1	WG1085091
Ethylbenzene	100-41-4	106	0.200	0.867	0.722	3.13		1	WG1085091
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1085091
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.206	1.16		1	WG1085091
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.308	1.53		1	WG1085091
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1085091
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1085091
Heptane	142-82-5	100	0.200	0.818	1.24	5.06		1	WG1085091
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1085091
n-Hexane	110-54-3	86.20	0.200	0.705	3.80	13.4		1	WG1085091
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1085091
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.552	1.92		1	WG1085091
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1085091
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	1.78	5.24		1	WG1085091
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1085091
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1085091
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1085091
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1085091
2-Propanol	67-63-0	60.10	1.25	3.07	11.0	27.1		1	WG1085091
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1085091
Styrene	100-42-5	104	0.200	0.851	0.605	2.57		1	WG1085091
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1085091
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1085091
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1085091
Toluene	108-88-3	92.10	0.200	0.753	9.99	37.6		1	WG1085091
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1085091
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1085091
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1085091
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1085091
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1085091
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1085091
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1085091
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1085091
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1085091
m&p-Xylene	1330-20-7	106	0.400	1.73	1.65	7.13		1	WG1085091
o-Xylene	95-47-6	106	0.200	0.867	0.655	2.84		1	WG1085091
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.6*				WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	1.91	4.53		1	WG1085091
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1085091
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1085091
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1085091
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1085091
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1085091
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1085091
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1085091
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1085091
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1085091
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1085091
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1085091
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1085091
Chloromethane	74-87-3	50.50	0.200	0.413	0.511	1.06		1	WG1085091
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1085091
Cyclohexane	110-82-7	84.20	0.200	0.689	0.210	0.725		1	WG1085091
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1085091
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1085091
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1085091
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1085091
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1085091
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1085091
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1085091
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1085091
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1085091
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1085091
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1085091
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1085091
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1085091
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1085091
Ethanol	64-17-5	46.10	0.630	1.19	3.14	5.92		1	WG1085091
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1085091
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1085091
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.202	1.14		1	WG1085091
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.288	1.42		1	WG1085091
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1085091
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1085091
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1085091
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1085091
n-Hexane	110-54-3	86.20	0.200	0.705	0.214	0.754		1	WG1085091
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1085091
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1085091
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1085091
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1085091
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1085091
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1085091
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1085091
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1085091
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG1085091
Propene	115-07-1	42.10	0.400	0.689	0.511	0.880		1	WG1085091
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1085091
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1085091
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1085091
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1085091
Toluene	108-88-3	92.10	0.200	0.753	0.509	1.92		1	WG1085091
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1085091
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1085091
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1085091
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1085091
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1085091
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1085091
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1085091
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1085091
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1085091
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1085091
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1085091
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	1.32	3.13		1	WG1085091
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1085091
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1085091
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1085091
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1085091
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1085091
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1085091
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1085091
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1085091
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1085091
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1085091
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1085091
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1085091
Chloromethane	74-87-3	50.50	0.200	0.413	0.514	1.06		1	WG1085091
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1085091
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1085091
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1085091
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1085091
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1085091
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1085091
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1085091
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1085091
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1085091
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1085091
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1085091
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1085091
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1085091
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1085091
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1085091
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1085091
Ethanol	64-17-5	46.10	0.630	1.19	2.78	5.25		1	WG1085091
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1085091
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1085091
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.212	1.19		1	WG1085091
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.311	1.54		1	WG1085091
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1085091
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1085091
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1085091
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1085091
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1085091
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1085091
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1085091
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1085091
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1085091
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1085091
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1085091
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1085091
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1085091
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG1085091
Propene	115-07-1	42.10	0.400	0.689	0.515	0.887		1	WG1085091
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1085091
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1085091
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1085091
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1085091
Toluene	108-88-3	92.10	0.200	0.753	0.394	1.49		1	WG1085091
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1085091
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1085091
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1085091
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1085091
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1085091
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1085091
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1085091
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1085091
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1085091
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1085091
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1085091
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	14.6	34.6		1	WG1085091
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1085091
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1085091
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1085091
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1085091
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1085091
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1085091
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1085091
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1085091
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1085091
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1085091
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1085091
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1085091
Chloromethane	74-87-3	50.50	0.200	0.413	0.517	1.07		1	WG1085091
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1085091
Cyclohexane	110-82-7	84.20	0.200	0.689	0.346	1.19		1	WG1085091
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1085091
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1085091
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1085091
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1085091
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	0.389	2.34		1	WG1085091
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1085091
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1085091
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1085091
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1085091
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1085091
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1085091
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1085091
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1085091
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1085091
Ethanol	64-17-5	46.10	0.630	1.19	127	239	E	1	WG1085091
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1085091
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1085091
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	1.04	5.83		1	WG1085091
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.354	1.75		1	WG1085091
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1085091
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1085091
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1085091
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1085091
n-Hexane	110-54-3	86.20	0.200	0.705	0.271	0.955		1	WG1085091
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1085091
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1085091
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1085091
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1085091
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1085091
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1085091
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1085091
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1085091
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG1085091
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1085091
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1085091
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1085091
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1085091
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1085091
Toluene	108-88-3	92.10	0.200	0.753	1.42	5.36		1	WG1085091
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1085091

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

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1085091
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1085091
Trichloroethylene	79-01-6	131	0.200	1.07	1.13	6.07		1	WG1085091
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.248	1.22		1	WG1085091
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1085091
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1085091
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1085091
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1085091
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1085091
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1085091
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1085091
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	10.2	24.2		1	WG1085091
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1085091
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1085091
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1085091
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1085091
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1085091
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1085091
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1085091
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1085091
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1085091
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1085091
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1085091
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1085091
Chloromethane	74-87-3	50.50	0.200	0.413	0.505	1.04		1	WG1085091
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1085091
Cyclohexane	110-82-7	84.20	0.200	0.689	0.783	2.70		1	WG1085091
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1085091
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1085091
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1085091
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1085091
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	0.201	1.21		1	WG1085091
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1085091
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1085091
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1085091
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1085091
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1085091
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1085091
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1085091
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1085091
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1085091
Ethanol	64-17-5	46.10	0.630	1.19	75.3	142	E	1	WG1085091
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1085091
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1085091
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.816	4.59		1	WG1085091
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.311	1.54		1	WG1085091
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1085091
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1085091
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1085091
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1085091
n-Hexane	110-54-3	86.20	0.200	0.705	0.216	0.761		1	WG1085091
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1085091
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1085091
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1085091
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1085091
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1085091
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1085091
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1085091
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1085091
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG1085091
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1085091
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1085091
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1085091
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1085091
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1085091
Toluene	108-88-3	92.10	0.200	0.753	0.644	2.42		1	WG1085091
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1085091
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1085091
Trichloroethylene	79-01-6	131	0.200	1.07	0.206	1.11		1	WG1085091
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1085091
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1085091
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1085091
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1085091
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1085091
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1085091
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1085091
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1085091
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*94.3*				WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	10.4	24.7		1	WG1085091
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1085091
Benzene	71-43-2	78.10	0.200	0.639	0.422	1.35		1	WG1085091
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1085091
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1085091
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1085091
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1085091
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1085091
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1085091
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1085091
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1085091
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1085091
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1085091
Chloromethane	74-87-3	50.50	0.200	0.413	0.444	0.917		1	WG1085091
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1085091
Cyclohexane	110-82-7	84.20	0.200	0.689	0.573	1.97		1	WG1085091
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1085091
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1085091
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1085091
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1085091
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	0.368	2.22		1	WG1085091
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1085091
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1085091
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1085091
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1085091
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1085091
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1085091
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1085091
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1085091
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1085091
Ethanol	64-17-5	46.10	0.630	1.19	90.9	171	E	1	WG1085091
Ethylbenzene	100-41-4	106	0.200	0.867	0.384	1.67		1	WG1085091
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1085091
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.685	3.85		1	WG1085091
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	1.25	6.20		1	WG1085091
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1085091
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1085091
Heptane	142-82-5	100	0.200	0.818	0.355	1.45		1	WG1085091
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1085091
n-Hexane	110-54-3	86.20	0.200	0.705	0.410	1.45		1	WG1085091
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1085091
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1085091
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1085091
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1085091
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1085091
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1085091
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1085091
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1085091
2-Propanol	67-63-0	60.10	1.25	3.07	2.02	4.96		1	WG1085091
Propene	115-07-1	42.10	0.400	0.689	1.66	2.86		1	WG1085091
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1085091
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1085091
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1085091
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1085091
Toluene	108-88-3	92.10	0.200	0.753	2.90	10.9		1	WG1085091
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1085091

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1085091
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1085091
Trichloroethylene	79-01-6	131	0.200	1.07	0.744	3.99		1	WG1085091
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.408	2.00		1	WG1085091
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1085091
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1085091
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1085091
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1085091
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1085091
m&p-Xylene	1330-20-7	106	0.400	1.73	1.44	6.24		1	WG1085091
o-Xylene	95-47-6	106	0.200	0.867	0.497	2.15		1	WG1085091
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*94.3*				WG1085091

Method Blank (MB)

(MB) R3293850-3 03/16/18 00:49

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3293850-3 03/16/18 00:49

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*93.8*			*60.0-140*

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

(LCS) R3293850-1 03/15/18 23:25 • (LCSD) R3293850-2 03/16/18 00:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.18	3.17	84.8	84.5	52.0-158			0.388	25
Propene	3.75	2.83	3.08	75.5	82.3	54.0-155			8.63	25
Dichlorodifluoromethane	3.75	3.07	3.17	81.8	84.4	69.0-143			3.23	25
1,2-Dichlorotetrafluoroethane	3.75	3.54	3.55	94.3	94.7	70.0-130			0.353	25
Chloromethane	3.75	3.54	3.61	94.4	96.2	70.0-130			1.93	25

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

(LCS) R3293850-1 03/15/18 23:25 • (LCSD) R3293850-2 03/16/18 00:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	3.65	3.71	97.3	98.9	70.0-130			1.60	25
1,3-Butadiene	3.75	3.65	3.78	97.2	101	70.0-130			3.54	25
Bromomethane	3.75	3.67	3.55	97.8	94.7	70.0-130			3.16	25
Chloroethane	3.75	3.78	3.66	101	97.7	70.0-130			3.10	25
Trichlorofluoromethane	3.75	3.70	3.71	98.8	99.0	70.0-130			0.192	25
1,1,2-Trichlorotrifluoroethane	3.75	3.76	3.73	100	99.4	70.0-130			0.807	25
1,1-Dichloroethene	3.75	3.77	3.70	100	98.8	70.0-130			1.66	25
1,1-Dichloroethane	3.75	3.74	3.78	99.7	101	70.0-130			0.978	25
Acetone	3.75	3.65	3.64	97.2	97.1	70.0-130			0.0959	25
2-Propanol	3.75	3.75	3.49	100	93.0	66.0-150			7.34	25
Carbon disulfide	3.75	3.59	3.58	95.7	95.5	70.0-130			0.174	25
Methylene Chloride	3.75	3.62	3.54	96.6	94.4	70.0-130			2.33	25
MTBE	3.75	3.81	3.80	102	101	70.0-130			0.328	25
trans-1,2-Dichloroethene	3.75	3.79	3.75	101	99.9	70.0-130			1.09	25
n-Hexane	3.75	3.78	3.75	101	100	70.0-130			0.578	25
Vinyl acetate	3.75	3.99	3.84	106	102	70.0-130			3.88	25
Methyl Ethyl Ketone	3.75	3.91	4.08	104	109	70.0-130			4.18	25
cis-1,2-Dichloroethene	3.75	3.81	3.84	102	102	70.0-130			0.785	25
Chloroform	3.75	3.77	3.76	100	100	70.0-130			0.244	25
Cyclohexane	3.75	3.83	3.86	102	103	70.0-130			0.830	25
1,1,1-Trichloroethane	3.75	3.77	3.78	101	101	70.0-130			0.356	25
Carbon tetrachloride	3.75	3.72	3.69	99.3	98.5	70.0-130			0.826	25
Benzene	3.75	3.76	3.70	100	98.7	70.0-130			1.55	25
1,2-Dichloroethane	3.75	3.86	3.83	103	102	70.0-130			0.749	25
Heptane	3.75	3.83	3.76	102	100	70.0-130			1.82	25
Trichloroethylene	3.75	3.76	3.72	100	99.1	70.0-130			1.28	25
1,2-Dichloropropane	3.75	3.86	3.78	103	101	70.0-130			2.24	25
1,4-Dioxane	3.75	3.89	3.75	104	100	70.0-152			3.64	25
Bromodichloromethane	3.75	3.79	3.76	101	100	70.0-130			0.904	25
cis-1,3-Dichloropropene	3.75	3.94	3.78	105	101	70.0-130			3.98	25
4-Methyl-2-pentanone (MIBK)	3.75	3.87	3.74	103	99.9	70.0-142			3.20	25
Toluene	3.75	3.76	3.71	100	98.8	70.0-130			1.44	25
trans-1,3-Dichloropropene	3.75	3.73	3.81	99.5	101	70.0-130			2.03	25
1,1,2-Trichloroethane	3.75	3.70	3.61	98.6	96.3	70.0-130			2.36	25
Tetrachloroethylene	3.75	3.90	3.76	104	100	70.0-130			3.87	25
Methyl Butyl Ketone	3.75	4.06	3.92	108	105	70.0-150			3.59	25
Dibromochloromethane	3.75	3.84	3.75	102	100	70.0-130			2.37	25
1,2-Dibromoethane	3.75	3.91	3.77	104	100	70.0-130			3.66	25
Chlorobenzene	3.75	3.83	3.77	102	101	70.0-130			1.49	25
Ethylbenzene	3.75	3.68	3.81	98.1	101	70.0-130			3.35	25

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

(LCS) R3293850-1 03/15/18 23:25 • (LCSD) R3293850-2 03/16/18 00:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	7.49	7.59	99.8	101	70.0-130			1.34	25
o-Xylene	3.75	3.78	3.85	101	103	70.0-130			1.72	25
Styrene	3.75	3.84	3.91	103	104	70.0-130			1.81	25
Bromoform	3.75	3.97	3.97	106	106	70.0-130			0.0549	25
1,1,2,2-Tetrachloroethane	3.75	3.74	3.80	99.8	101	70.0-130			1.55	25
4-Ethyltoluene	3.75	3.86	3.97	103	106	70.0-130			2.79	25
1,3,5-Trimethylbenzene	3.75	3.81	3.89	102	104	70.0-130			2.22	25
1,2,4-Trimethylbenzene	3.75	3.84	3.88	102	104	70.0-130			1.15	25
1,3-Dichlorobenzene	3.75	3.91	3.95	104	105	70.0-130			0.873	25
1,4-Dichlorobenzene	3.75	3.94	4.07	105	108	70.0-130			3.08	25
Benzyl Chloride	3.75	4.11	4.06	110	108	70.0-144			1.23	25
1,2-Dichlorobenzene	3.75	3.77	3.85	100	103	70.0-130			2.08	25
1,2,4-Trichlorobenzene	3.75	4.51	4.62	120	123	70.0-155			2.20	25
Hexachloro-1,3-butadiene	3.75	4.02	4.01	107	107	70.0-145			0.246	25
Naphthalene	3.75	4.34	4.40	116	117	70.0-155			1.41	25
Allyl Chloride	3.75	3.72	3.77	99.1	101	70.0-130			1.51	25
2-Chlorotoluene	3.75	3.77	3.87	101	103	70.0-130			2.60	25
Methyl Methacrylate	3.75	3.85	3.80	103	101	70.0-130			1.24	25
Tetrahydrofuran	3.75	3.85	3.84	103	102	70.0-140			0.438	25
2,2,4-Trimethylpentane	3.75	3.82	3.76	102	100	70.0-130			1.82	25
Vinyl Bromide	3.75	3.72	3.77	99.2	100	70.0-130			1.28	25
Isopropylbenzene	3.75	3.78	3.81	101	102	70.0-130			0.733	25
(S) 1,4-Bromofluorobenzene				*99.2*	*101*	*60.0-140*				

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.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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, 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.
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.
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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

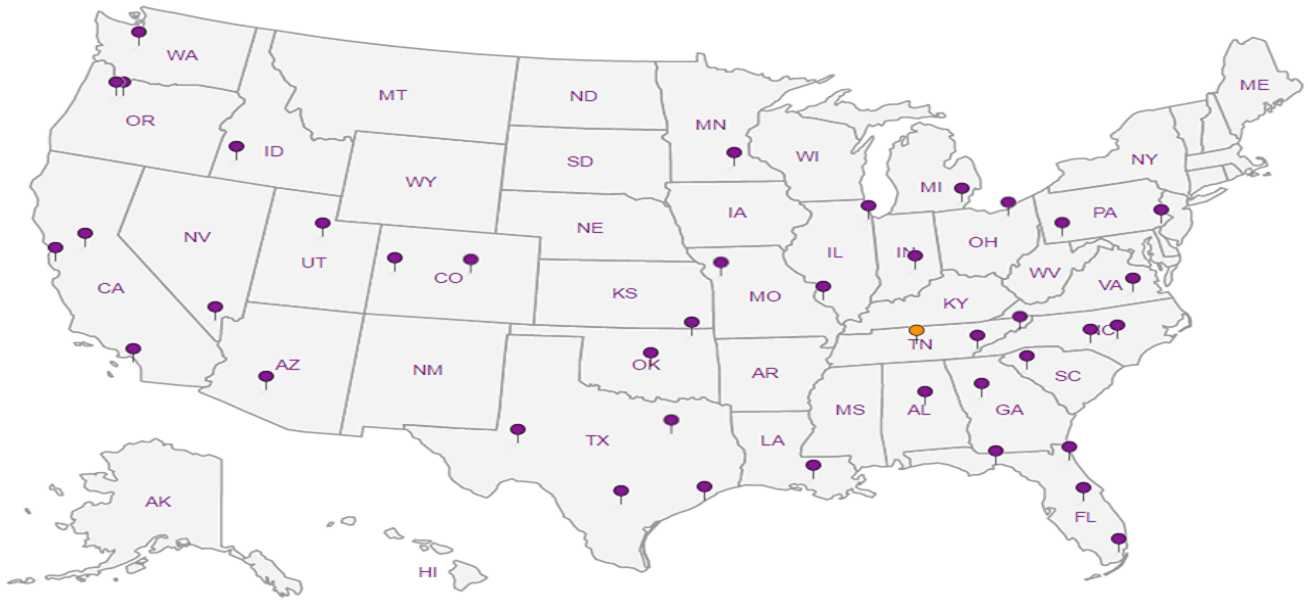
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



Company Name/Address:
ATC Group Services LLC
6347 Seaview Avenue NW
Seattle, Washington, 98107

Billing Information:
6347 Seaview Avenue NW
Seattle, Washington, 98107

Report to: Simon Payne

Email To: simon.payne@atcgs.com

Project Description: HP Cleaners 1Q18

City/State Collected: Lynnwood, Washington

Phone: 206 781 1449
Fax:

Client Project # NPWR1 18001

Lab Project #

Collected by (print): Nicholas Turner

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed: Standard TAT

Email? ___No X Yes
FAX? X No ___Yes

Canister Pressure/Vacuum

Sample ID	Sample Description	Can #	Date	Time	Initial	Final
OA-1	Outdoor Air (8hr)	006140	03/13/18	1703	30	0
OA-2	Outdoor Air (8hr)	007196	03/13/18	1710	29	7
OA-3	Outdoor Air (8hr)	006085	03/13/18	1715 (NT)	28	9
IA-1	Indoor Air (8hr)	006137	03/13/18	~~1733~~ 1733	28	7
IA-2	Indoor Air (8hr)	008891	03/13/18	1724	30	5
EFF-031318	Effluent Air	006906	03/13/18	1636	30	7

Analysis: TO-15 Summa

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
a subsidiary of Pace Analytical
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 977692
M092
Table

Acctnum: ATCSWA
Template: 1123297
Prelogin: P641543
TSR: Brian Ford
PB: BF 3/11/18
Shipped Via: Ground

Rem./Contaminant	Sample # (lab only)
	01
	02
	03
	04
	05
	06

Remarks: 4276 0143 5846

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	03/14/18	0725	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
			840

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: AmB °C Bottles Received: 6

Date: 3/15/18 Time: 845

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

ESC LAB SCIENCES
Cooler Receipt Form

Client: ATCSWA	SDG#		
Cooler Received/Opened On: 3/15/18	Temperature:	AmB	
Received By: Christian Kacar			
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	/		
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

ANALYTICAL REPORT

April 17, 2018

ATC Group Services LLC - Seattle, WA

Sample Delivery Group:	L985783
Samples Received:	04/14/2018
Project Number:	NPWRI18001
Description:	HP Cleaners

Report To:

Simon Payne
6347 Seaview Avenue NW
Seattle, WA 98107

Entire Report Reviewed By:

Brian Ford
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

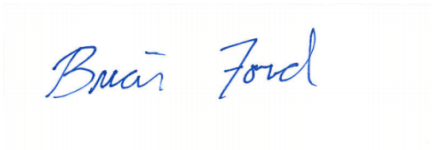
TABLE OF CONTENTS

EFF-041218 L985783-01 Air

Collected by	Collected date/time	Received date/time
Nicholas Turner	04/12/18 14:15	04/14/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1098766	1	04/16/18 16:51	04/16/18 16:51	MBF

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	26.7	63.5		1	WG1098766
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1098766
Benzene	71-43-2	78.10	0.200	0.639	0.283	0.905		1	WG1098766
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1098766
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1098766
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1098766
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1098766
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1098766
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1098766
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1098766
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1098766
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1098766
Chloroform	67-66-3	119	0.200	0.973	0.563	2.74		1	WG1098766
Chloromethane	74-87-3	50.50	0.200	0.413	0.478	0.988		1	WG1098766
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1098766
Cyclohexane	110-82-7	84.20	0.200	0.689	0.275	0.948		1	WG1098766
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1098766
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1098766
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1098766
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1098766
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	0.517	3.11		1	WG1098766
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1098766
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1098766
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1098766
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1098766
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1098766
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1098766
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1098766
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1098766
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1098766
Ethanol	64-17-5	46.10	0.630	1.19	63.8	120	E	1	WG1098766
Ethylbenzene	100-41-4	106	0.200	0.867	0.759	3.29		1	WG1098766
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.919	4.51		1	WG1098766
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.772	4.34		1	WG1098766
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	1.89	9.33		1	WG1098766
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1098766
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1098766
Heptane	142-82-5	100	0.200	0.818	0.336	1.38		1	WG1098766
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1098766
n-Hexane	110-54-3	86.20	0.200	0.705	0.342	1.21		1	WG1098766
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1098766
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1098766
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1098766
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1098766
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1098766
Methyl methacrylate	80-62-6	100.12	0.200	0.819	0.385	1.58		1	WG1098766
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1098766
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1098766
2-Propanol	67-63-0	60.10	1.25	3.07	4.69	11.5		1	WG1098766
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1098766
Styrene	100-42-5	104	0.200	0.851	0.631	2.69		1	WG1098766
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1098766
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1098766
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	0.475	1.40		1	WG1098766
Toluene	108-88-3	92.10	0.200	0.753	4.23	15.9		1	WG1098766
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1098766

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1098766
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1098766
Trichloroethylene	79-01-6	131	0.200	1.07	0.642	3.44		1	WG1098766
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.05	5.16		1	WG1098766
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.291	1.43		1	WG1098766
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1098766
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1098766
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1098766
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1098766
m&p-Xylene	1330-20-7	106	0.400	1.73	3.15	13.7		1	WG1098766
o-Xylene	95-47-6	106	0.200	0.867	1.10	4.76		1	WG1098766
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.3*				WG1098766

Method Blank (MB)

(MB) R3302355-3 04/16/18 10:37

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3302355-3 04/16/18 10:37

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*93.2*			*60.0-140*

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

(LCS) R3302355-1 04/16/18 09:15 • (LCSD) R3302355-2 04/16/18 09:55

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.91	3.89	104	104	52.0-158			0.402	25
Propene	3.75	4.08	4.14	109	110	54.0-155			1.32	25
Dichlorodifluoromethane	3.75	4.01	4.05	107	108	69.0-143			1.18	25
1,2-Dichlorotetrafluoroethane	3.75	4.09	4.10	109	109	70.0-130			0.323	25
Chloromethane	3.75	4.18	4.18	111	111	70.0-130			0.00426	25

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

(LCS) R3302355-1 04/16/18 09:15 • (LCSD) R3302355-2 04/16/18 09:55

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	4.14	4.22	111	113	70.0-130			1.78	25
1,3-Butadiene	3.75	4.15	4.19	111	112	70.0-130			1.10	25
Bromomethane	3.75	4.10	3.81	109	102	70.0-130			7.37	25
Chloroethane	3.75	4.16	3.83	111	102	70.0-130			8.30	25
Trichlorofluoromethane	3.75	4.11	3.86	110	103	70.0-130			6.32	25
1,1,2-Trichlorotrifluoroethane	3.75	4.00	4.04	107	108	70.0-130			1.20	25
1,1-Dichloroethene	3.75	4.04	4.13	108	110	70.0-130			2.25	25
1,1-Dichloroethane	3.75	4.04	4.11	108	110	70.0-130			1.71	25
Acetone	3.75	4.09	4.13	109	110	70.0-130			1.07	25
2-Propanol	3.75	4.13	4.08	110	109	66.0-150			1.22	25
Carbon disulfide	3.75	4.05	4.14	108	110	70.0-130			2.12	25
Methylene Chloride	3.75	4.01	4.02	107	107	70.0-130			0.0845	25
MTBE	3.75	3.99	3.98	106	106	70.0-130			0.144	25
trans-1,2-Dichloroethene	3.75	4.08	4.12	109	110	70.0-130			1.03	25
n-Hexane	3.75	4.15	4.14	111	110	70.0-130			0.129	25
Vinyl acetate	3.75	4.19	4.24	112	113	70.0-130			1.36	25
Methyl Ethyl Ketone	3.75	4.12	4.09	110	109	70.0-130			0.724	25
cis-1,2-Dichloroethene	3.75	4.02	4.04	107	108	70.0-130			0.455	25
Chloroform	3.75	3.99	3.99	106	107	70.0-130			0.116	25
Cyclohexane	3.75	4.12	4.09	110	109	70.0-130			0.814	25
1,1,1-Trichloroethane	3.75	4.00	4.01	107	107	70.0-130			0.126	25
Carbon tetrachloride	3.75	3.95	3.97	105	106	70.0-130			0.450	25
Benzene	3.75	4.07	4.11	108	110	70.0-130			1.14	25
1,2-Dichloroethane	3.75	3.93	4.02	105	107	70.0-130			2.33	25
Heptane	3.75	4.24	4.24	113	113	70.0-130			0.122	25
Trichloroethylene	3.75	3.99	4.01	106	107	70.0-130			0.332	25
1,2-Dichloropropane	3.75	4.11	4.16	110	111	70.0-130			1.06	25
1,4-Dioxane	3.75	4.14	4.05	110	108	70.0-152			2.07	25
Bromodichloromethane	3.75	4.04	4.05	108	108	70.0-130			0.110	25
cis-1,3-Dichloropropene	3.75	4.04	4.07	108	109	70.0-130			0.874	25
4-Methyl-2-pentanone (MIBK)	3.75	4.29	4.23	115	113	70.0-142			1.41	25
Toluene	3.75	4.09	4.08	109	109	70.0-130			0.233	25
trans-1,3-Dichloropropene	3.75	4.08	4.04	109	108	70.0-130			1.07	25
1,1,2-Trichloroethane	3.75	4.04	4.04	108	108	70.0-130			0.0385	25
Tetrachloroethylene	3.75	4.13	4.11	110	110	70.0-130			0.531	25
Methyl Butyl Ketone	3.75	4.41	4.27	118	114	70.0-150			3.43	25
Dibromochloromethane	3.75	4.10	4.07	109	108	70.0-130			0.869	25
1,2-Dibromoethane	3.75	4.08	4.06	109	108	70.0-130			0.590	25
Chlorobenzene	3.75	4.06	4.03	108	108	70.0-130			0.638	25
Ethylbenzene	3.75	4.06	4.09	108	109	70.0-130			0.949	25

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

(LCS) R3302355-1 04/16/18 09:15 • (LCSD) R3302355-2 04/16/18 09:55

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	8.16	8.17	109	109	70.0-130			0.211	25
o-Xylene	3.75	4.09	4.08	109	109	70.0-130			0.245	25
Styrene	3.75	4.16	4.15	111	111	70.0-130			0.175	25
Bromoform	3.75	4.21	4.16	112	111	70.0-130			1.03	25
1,1,2,2-Tetrachloroethane	3.75	3.92	3.86	105	103	70.0-130			1.64	25
4-Ethyltoluene	3.75	3.97	3.93	106	105	70.0-130			1.04	25
1,3,5-Trimethylbenzene	3.75	4.07	3.97	109	106	70.0-130			2.61	25
1,2,4-Trimethylbenzene	3.75	4.04	3.97	108	106	70.0-130			1.73	25
1,3-Dichlorobenzene	3.75	4.18	4.10	112	109	70.0-130			1.91	25
1,4-Dichlorobenzene	3.75	4.40	4.29	117	114	70.0-130			2.55	25
Benzyl Chloride	3.75	3.99	3.89	106	104	70.0-144			2.50	25
1,2-Dichlorobenzene	3.75	4.24	4.16	113	111	70.0-130			1.96	25
1,2,4-Trichlorobenzene	3.75	4.58	4.50	122	120	70.0-155			1.85	25
Hexachloro-1,3-butadiene	3.75	4.32	4.34	115	116	70.0-145			0.255	25
Naphthalene	3.75	4.21	4.12	112	110	70.0-155			2.24	25
Allyl Chloride	3.75	4.25	4.24	113	113	70.0-130			0.302	25
2-Chlorotoluene	3.75	4.00	3.99	107	107	70.0-130			0.0128	25
Methyl Methacrylate	3.75	4.14	4.09	110	109	70.0-130			1.08	25
Tetrahydrofuran	3.75	4.13	4.08	110	109	70.0-140			1.36	25
2,2,4-Trimethylpentane	3.75	4.16	4.14	111	110	70.0-130			0.371	25
Vinyl Bromide	3.75	4.13	3.80	110	101	70.0-130			8.34	25
Isopropylbenzene	3.75	4.09	4.04	109	108	70.0-130			1.41	25
(S) 1,4-Bromofluorobenzene				*96.5*	*95.1*	*60.0-140*				

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.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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, 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.
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.
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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

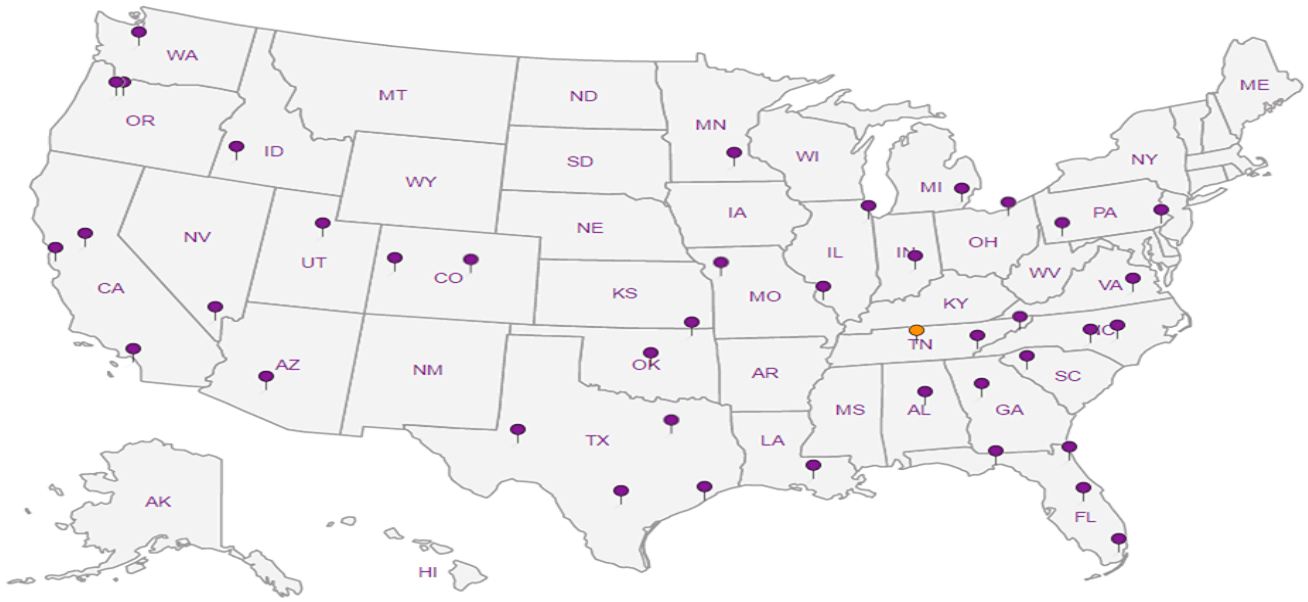
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



ATC Group Services LLC - Seattle, WA

6347 Seaview Avenue NW
Seattle, WA 98107

Billing Information:
Simon Payne
6347 Seaview Avenue NW
Seattle, WA 98107

Pres Chk

Report to: Simon Payne

Email To: simon.payne@atcassociates.com

Project Description: HP Cleaners

City/State Collected: Lynnwood, Wa

Phone: 206-781-1449

Client Project # ~~282EM00171~~ NPWRI18001

Lab Project # ATCSWA-282EM00171

Fax:

Collected by (print): Nicholas Turner

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N X Y ___

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: Standard TAT

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa										Remarks	Sample # (lab only)
EFF-041218	G	Air	✓	04/12/18	1415	1	X											-01

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORIES

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 185783

M127

Acctnum: ATCSWA
Template: T129188
Prelogin: P648169
TSR: 110 - Brian Ford
PB:
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: (1)6Liter summa, (1)200cc/min manifolds, (1)tubing and fittings
Can #: 5132
Sample train #: 006770

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4196 3254 3171

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	
	04/13/18	0830			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
				Amb 1	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
			880	4/14/18 900	

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 16, 2018

ATC Group Services LLC - Seattle, WA

Sample Delivery Group:	L1008985
Samples Received:	07/10/2018
Project Number:	NPWRL18001
Description:	Harbour Pointe Cleaners

Report To: Elisabeth Silver
6347 Seaview Avenue NW
Seattle, WA 98107

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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

SV-1-070618 L1008985-01 Air

Collected by: B. Goulet
Collected date/time: 07/06/18 11:17
Received date/time: 07/10/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1137476	1	07/13/18 13:33	07/13/18 13:33	MEL

SV-2-070618 L1008985-02 Air

Collected by: B. Goulet
Collected date/time: 07/06/18 12:28
Received date/time: 07/10/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1137476	1	07/13/18 13:36	07/13/18 13:36	MEL

SV-3-070618 L1008985-03 Air

Collected by: B. Goulet
Collected date/time: 07/06/18 13:09
Received date/time: 07/10/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1137476	1	07/13/18 13:42	07/13/18 13:42	MEL

SV-4-070618 L1008985-04 Air

Collected by: B. Goulet
Collected date/time: 07/06/18 13:44
Received date/time: 07/10/18 08:45

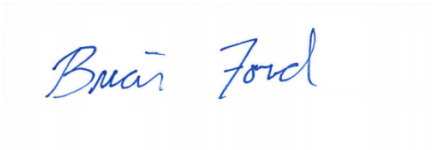
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1137476	1	07/13/18 13:45	07/13/18 13:45	MEL

SV-5-070618 L1008985-05 Air

Collected by: B. Goulet
Collected date/time: 07/06/18 14:24
Received date/time: 07/10/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method ASTM 1946	WG1137476	1	07/13/18 13:48	07/13/18 13:48	MEL

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		0.100	ND		1	WG1137476

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		0.100	ND		1	WG1137476

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		0.100	ND		1	WG1137476

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		0.100	ND		1	WG1137476

Volatile Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL	Result	Qualifier	Dilution	Batch
			%	%			
Helium	7440-59-7		0.100	ND		1	WG1137476

Method Blank (MB)

(MB) R3325387-3 07/13/18 11:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Helium	U		0.0259	0.100

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

(LCS) R3325387-1 07/13/18 10:53 • (LCSD) R3325387-2 07/13/18 10:57

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	%	%	%	%	%	%			%	%
Helium	2.50	2.73	2.64	109	106	70.0-130			3.54	25

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.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	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.
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.
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.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

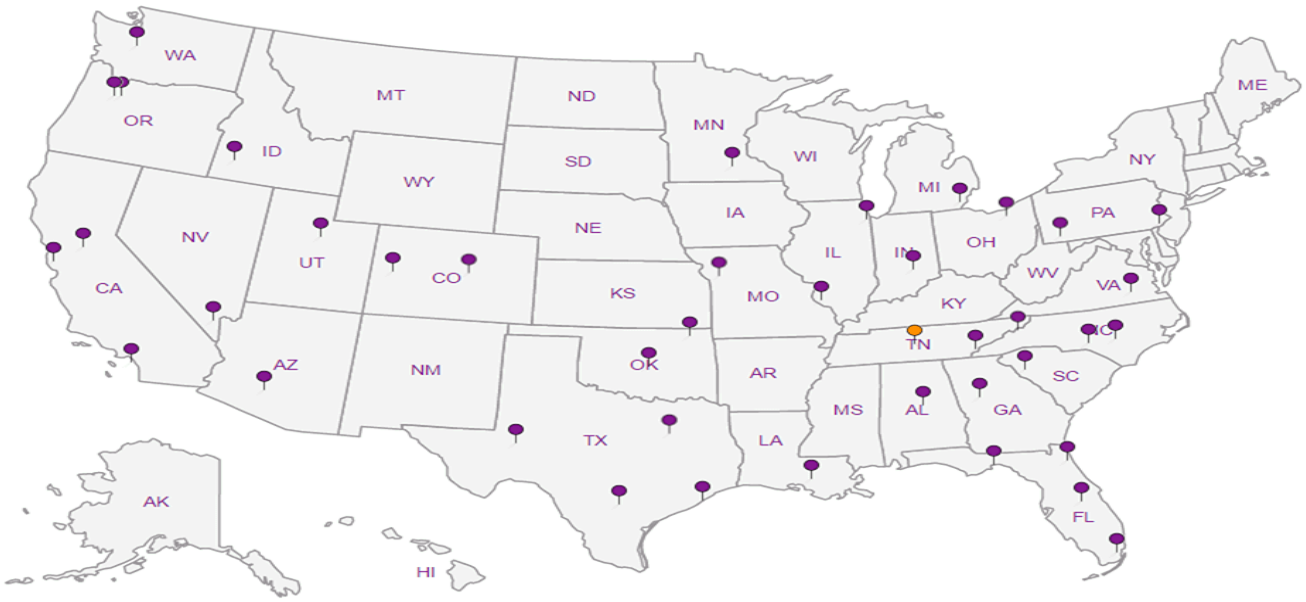
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Company Name/Address:
ATC Group Services LLC
6347 Seaview Ave. NW
Seattle, WA 98107

Billing Information:
same

Analysis

Chain of Custody Page ___ of ___

ESC LAB SCIENCES
a subsidiary of Pace Analytical
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Elisabeth Silver

Email To: Elisabeth.Silver@atcgs.com

Project Description: Harbour Pointe Cleaners

City/State Collected: Lynwood, WA

Phone: (206) 781-1449
Fax:

Client Project # NPWR118001
~~282EM00171~~ BG

Lab Project #

L# ~~100 7171~~ N 7/13/18

Table #

M126
L1008985

Collected by (print): B. Goulet

Site/Facility ID #

P.O. #

Acctnum:

Template: T138005

Collected by (signature): B Goulet

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed: Standard TAT

Email? ___No X Yes
FAX? X No ___Yes

Canister Pressure/Vacuum

Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Sample Description	Can #	Date	Time	Initial	Final	Rem./Contaminant	Sample # (lab only)
OA1-070618	outdoor air, 1	9320	07-06-18	0818	-29.5"	-12.25"	~~01~~	
OA2-070618	outdoor air, 2	6900		0821	-30.0"	-10.0"	~~02~~	
OA3-070618	outdoor air, 3	5271		0824	-29.0"	-11.25"	~~03~~	
IA1-070618	indoor air, 1	5137		0843	-30.0"	-9.5"	~~04~~	
IA2-070618	indoor air, 2	6621		0839	-28.5"	-6.0"	~~05~~	
SV-1-070618	SV-1	9146		11:17	-29.0"	-6.0"	~~06~~	-01
SV-2-070618	SV-2	7306		12:28	-29.5"	-8.0"	~~07~~	02
SV-3-070618	SV-3	6901		13:09	-29.5"	-5.5"	~~08~~	03
SV-4-070618	SV-4	8883		13:44	-29.25"	-5.5"	~~09~~	04
SV-5-070618	SV-5	8746	↓	14:24	-29.0"	-8.0"	~~10~~	05

4992 5214 5173 5184

Remarks: 3 x boxes in return shipment

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	7/9/2018	1055	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ ____

Temp: Amb °C Bottles Received: 60

Date: 7/10/18 Time: 0845

Condition: (lab use only) ✓

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Andy Vann

From: Brian Ford
Sent: Friday, July 13, 2018 10:00 AM
To: Login; Sample Storage; Brian Ford; Air; Heidi Ferrell; Chris Johnson; Matt B. Ferrell
Subject: L1007777 *ATCSWA* re-log

L1007777-06 through -10. Please re-log for Helium as R5 due 07/20.

Air,

Please make sure these are not cleaned prior to re-log/re-analysis.

Thanks,

Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.9772
bford@pacenational.com | pacenational.com

ESC Lab Sciences is now Pace Analytical National Center for Testing & Innovation! Please make note of my new email address and website.

ANALYTICAL REPORT

June 06, 2018

ATC Group Services LLC - Seattle, WA

Sample Delivery Group:	L998635
Samples Received:	06/02/2018
Project Number:	282EM00171
Description:	Harbour Pointe

Report To: Elisabeth Silver
6347 Seaview Avenue NW
Seattle, WA 98107

Entire Report Reviewed By:

Brian Ford
Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

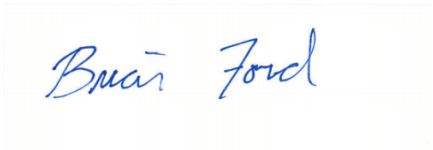
TABLE OF CONTENTS

EFF-053118 L998635-01 Air

	Collected by	Collected date/time	Received date/time
	B. Goulet	05/31/18 10:52	06/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1119944	1	06/05/18 20:13	06/05/18 20:13	AMC

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	18.3	43.4		1	WG1119944
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1119944
Benzene	71-43-2	78.10	0.200	0.639	0.391	1.25		1	WG1119944
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1119944
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1119944
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1119944
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1119944
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1119944
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.221	0.689		1	WG1119944
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1119944
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1119944
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1119944
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1119944
Chloromethane	74-87-3	50.50	0.200	0.413	0.556	1.15		1	WG1119944
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1119944
Cyclohexane	110-82-7	84.20	0.200	0.689	0.238	0.820		1	WG1119944
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1119944
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1119944
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1119944
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1119944
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	0.347	2.09		1	WG1119944
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1119944
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1119944
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1119944
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1119944
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1119944
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1119944
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1119944
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1119944
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1119944
Ethanol	64-17-5	46.10	0.630	1.19	83.2	157	E	1	WG1119944
Ethylbenzene	100-41-4	106	0.200	0.867	0.546	2.37		1	WG1119944
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.562	2.76		1	WG1119944
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	2.25	12.6		1	WG1119944
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.547	2.71		1	WG1119944
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1119944
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1119944
Heptane	142-82-5	100	0.200	0.818	0.319	1.31		1	WG1119944
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1119944
n-Hexane	110-54-3	86.20	0.200	0.705	0.547	1.93		1	WG1119944
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1119944
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.633	2.20		1	WG1119944
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1119944
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1119944
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1119944
Methyl methacrylate	80-62-6	100.12	0.200	0.819	0.677	2.77		1	WG1119944
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1119944
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1119944
2-Propanol	67-63-0	60.10	1.25	3.07	115	283	E	1	WG1119944
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1119944
Styrene	100-42-5	104	0.200	0.851	0.323	1.38		1	WG1119944
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1119944
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1119944
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1119944
Toluene	108-88-3	92.10	0.200	0.753	3.69	13.9		1	WG1119944
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1119944

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1119944
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1119944
Trichloroethylene	79-01-6	131	0.200	1.07	0.385	2.06		1	WG1119944
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.637	3.12		1	WG1119944
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1119944
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.416	1.94		1	WG1119944
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1119944
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1119944
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1119944
m&p-Xylene	1330-20-7	106	0.400	1.73	1.95	8.45		1	WG1119944
o-Xylene	95-47-6	106	0.200	0.867	0.774	3.35		1	WG1119944
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG1119944

Method Blank (MB)

(MB) R3315435-3 06/05/18 10:22

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3315435-3 06/05/18 10:22

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*98.9*			*60.0-140*

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

(LCS) R3315435-1 06/05/18 08:50 • (LCSD) R3315435-2 06/05/18 09:35

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.80	3.78	101	101	52.0-158			0.393	25
Propene	3.75	4.09	4.07	109	109	54.0-155			0.473	25
Dichlorodifluoromethane	3.75	4.29	4.27	115	114	69.0-143			0.661	25
1,2-Dichlorotetrafluoroethane	3.75	4.13	4.10	110	109	70.0-130			0.756	25
Chloromethane	3.75	4.15	4.09	111	109	70.0-130			1.54	25

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

(LCS) R3315435-1 06/05/18 08:50 • (LCSD) R3315435-2 06/05/18 09:35

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	4.03	4.13	107	110	70.0-130			2.58	25
1,3-Butadiene	3.75	4.06	4.10	108	109	70.0-130			1.01	25
Bromomethane	3.75	4.22	4.06	112	108	70.0-130			3.87	25
Chloroethane	3.75	4.10	4.06	109	108	70.0-130			0.871	25
Trichlorofluoromethane	3.75	4.28	4.22	114	112	70.0-130			1.55	25
1,1,2-Trichlorotrifluoroethane	3.75	4.07	4.01	109	107	70.0-130			1.45	25
1,1-Dichloroethene	3.75	4.27	4.18	114	111	70.0-130			2.18	25
1,1-Dichloroethane	3.75	4.15	4.10	111	109	70.0-130			1.33	25
Acetone	3.75	4.38	4.33	117	115	70.0-130			1.09	25
2-Propanol	3.75	4.22	4.16	112	111	66.0-150			1.37	25
Carbon disulfide	3.75	4.01	3.97	107	106	70.0-130			1.05	25
Methylene Chloride	3.75	4.14	4.11	111	109	70.0-130			0.953	25
MTBE	3.75	4.17	4.09	111	109	70.0-130			1.90	25
trans-1,2-Dichloroethene	3.75	4.19	4.12	112	110	70.0-130			1.66	25
n-Hexane	3.75	4.07	4.03	108	107	70.0-130			1.02	25
Vinyl acetate	3.75	4.58	4.52	122	121	70.0-130			1.26	25
Methyl Ethyl Ketone	3.75	4.12	4.05	110	108	70.0-130			1.83	25
cis-1,2-Dichloroethene	3.75	4.19	4.13	112	110	70.0-130			1.45	25
Chloroform	3.75	4.14	4.07	110	109	70.0-130			1.72	25
Cyclohexane	3.75	3.98	3.92	106	105	70.0-130			1.54	25
1,1,1-Trichloroethane	3.75	4.21	4.14	112	110	70.0-130			1.69	25
Carbon tetrachloride	3.75	4.16	4.13	111	110	70.0-130			0.813	25
Benzene	3.75	3.96	3.90	106	104	70.0-130			1.71	25
1,2-Dichloroethane	3.75	4.53	4.45	121	119	70.0-130			1.78	25
Heptane	3.75	4.22	4.19	113	112	70.0-130			0.827	25
Trichloroethylene	3.75	4.02	3.96	107	105	70.0-130			1.61	25
1,2-Dichloropropane	3.75	4.06	4.01	108	107	70.0-130			1.37	25
1,4-Dioxane	3.75	3.93	3.85	105	103	70.0-152			2.05	25
Bromodichloromethane	3.75	4.24	4.16	113	111	70.0-130			1.91	25
cis-1,3-Dichloropropene	3.75	4.13	4.08	110	109	70.0-130			1.31	25
4-Methyl-2-pentanone (MIBK)	3.75	4.43	4.39	118	117	70.0-142			0.994	25
Toluene	3.75	3.98	3.91	106	104	70.0-130			1.59	25
trans-1,3-Dichloropropene	3.75	4.22	4.17	113	111	70.0-130			1.26	25
1,1,2-Trichloroethane	3.75	3.97	3.90	106	104	70.0-130			1.92	25
Tetrachloroethylene	3.75	3.91	3.84	104	102	70.0-130			1.86	25
Methyl Butyl Ketone	3.75	4.75	4.67	127	124	70.0-150			1.68	25
Dibromochloromethane	3.75	4.32	4.25	115	113	70.0-130			1.66	25
1,2-Dibromoethane	3.75	4.32	4.24	115	113	70.0-130			1.96	25
Chlorobenzene	3.75	4.21	4.17	112	111	70.0-130			0.946	25
Ethylbenzene	3.75	4.12	4.04	110	108	70.0-130			2.04	25

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

(LCS) R3315435-1 06/05/18 08:50 • (LCSD) R3315435-2 06/05/18 09:35

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	8.23	8.08	110	108	70.0-130			1.82	25
o-Xylene	3.75	4.13	4.02	110	107	70.0-130			2.60	25
Styrene	3.75	4.15	4.06	111	108	70.0-130			2.08	25
Bromoform	3.75	4.14	4.08	111	109	70.0-130			1.58	25
1,1,2,2-Tetrachloroethane	3.75	4.21	4.13	112	110	70.0-130			1.95	25
4-Ethyltoluene	3.75	4.19	4.09	112	109	70.0-130			2.48	25
1,3,5-Trimethylbenzene	3.75	4.21	4.11	112	110	70.0-130			2.27	25
1,2,4-Trimethylbenzene	3.75	4.17	4.07	111	109	70.0-130			2.43	25
1,3-Dichlorobenzene	3.75	4.18	4.09	112	109	70.0-130			2.23	25
1,4-Dichlorobenzene	3.75	4.31	4.22	115	112	70.0-130			2.17	25
Benzyl Chloride	3.75	4.62	4.52	123	121	70.0-144			2.01	25
1,2-Dichlorobenzene	3.75	4.11	4.02	109	107	70.0-130			2.00	25
1,2,4-Trichlorobenzene	3.75	3.92	3.84	105	102	70.0-155			2.17	25
Hexachloro-1,3-butadiene	3.75	3.92	3.84	104	102	70.0-145			1.96	25
Naphthalene	3.75	3.94	3.87	105	103	70.0-155			1.76	25
Allyl Chloride	3.75	4.17	4.14	111	111	70.0-130			0.731	25
2-Chlorotoluene	3.75	4.26	4.17	114	111	70.0-130			2.03	25
Methyl Methacrylate	3.75	4.48	4.43	119	118	70.0-130			1.10	25
Tetrahydrofuran	3.75	4.27	4.22	114	113	70.0-140			0.997	25
2,2,4-Trimethylpentane	3.75	4.01	3.96	107	105	70.0-130			1.37	25
Vinyl Bromide	3.75	3.97	3.93	106	105	70.0-130			1.06	25
Isopropylbenzene	3.75	4.12	4.03	110	107	70.0-130			2.19	25
(S) 1,4-Bromofluorobenzene				*105*	*105*	*60.0-140*				

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.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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.
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.
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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

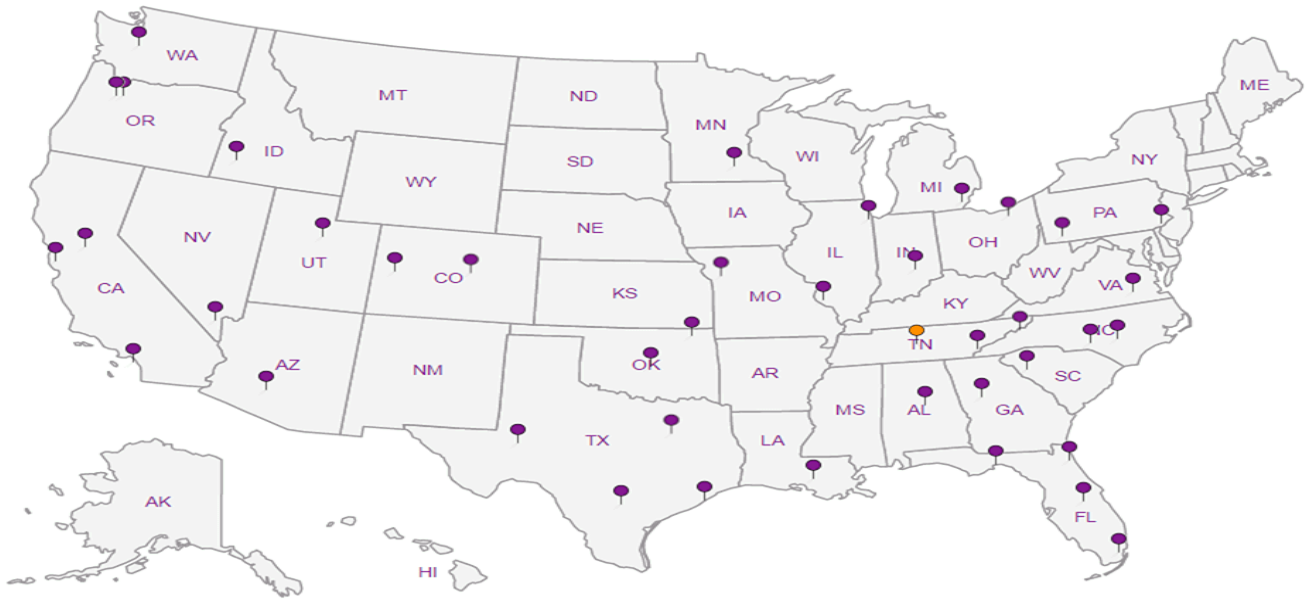
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



ATC Group Services LLC - Seattle, WA

6347 Seaview Avenue NW
Seattle, WA 98107

Billing Information:
Elisabeth Silver
6347 Seaview Avenue NW
Seattle, WA 98107

Report to: Elisabeth Silver
Email To: elisabeth.silver@atcgs.com

Project Description: Harbour Pointe
City/State Collected: Seattle, WA

Phone: 206-781-1449
Fax:

Client Project # 282EM00171
Lab Project # ATCSWA-282EM00171

Collected by (print): B. Goulet
Site/Facility ID #
P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y ___

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
Quote #

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa											
EFF-053118	Grab	Air		05-31-18	1052	1	X											-1

Chain of Custody Page ___ of ___

ESC LAB SCIENCES
a subsidiary of Accutest

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 99867S

Table # M026

Acctnum: ATCSWA
Template: T129188
Prelogin: P652602
TSR: 110 - Brian Ford
PB:

Shipped Via:

Remarks | Sample # (lab only)

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: (1)6Liter summa, (1)200cc/min manifolds, (1)tubing and fittings

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier __ _____

Tracking # 436169322592

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
B. Goulet	06-01-18	0820		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				Amb 1
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				06/2/18 0845

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK